

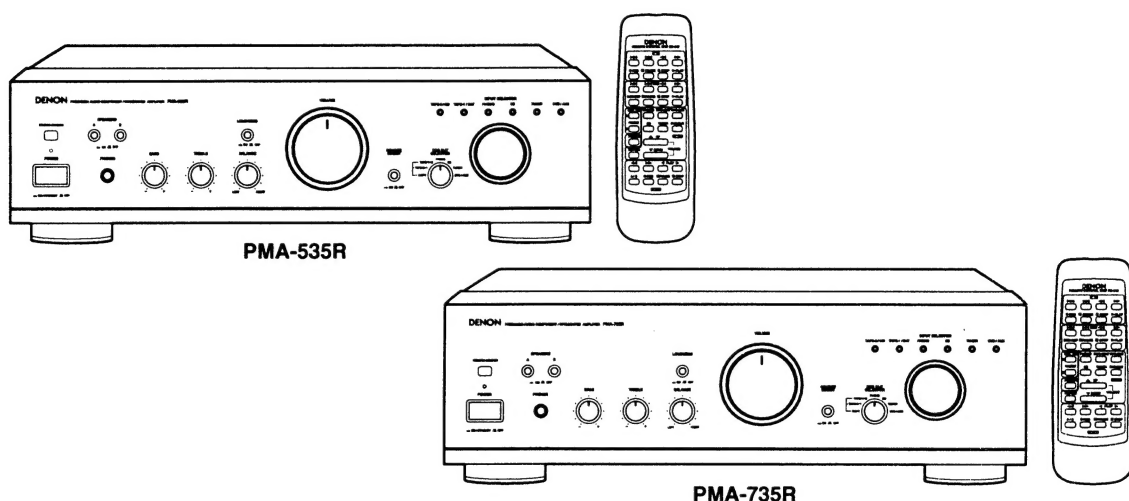
# DENON

Hi-Fi Integrated Stereo Amplifier

## SERVICE MANUAL

# MODEL PMA-535R/735R

### INTEGRATED STEREO AMPLIFIER



#### — TABLE OF CONTENTS —

SAFETY PRECAUTIONS .....	2
DISASSEMBLY .....	3~6
BLOCK AND LEVEL DIAGRAM .....	7
ADJUSTMENT .....	8
SEMICONDUCTORS .....	9~11
PRINTED WIRING BOARD .....	12~14
NOTE FOR PARTS LIST .....	15
PARTS LIST OF P.W.BOARD .....	16~21
PARTS LIST OF EXPLODED VIEW (PMA-535R) .....	22
EXPLODED VIEW (PMA-535R) .....	23
EXPLODED VIEW (PMA-735R) .....	24
PARTS LIST OF EXPLODED VIEW (PMA-735R) .....	25
WIRING DIAGRAM .....	26
SCHEMATIC DIAGRAM .....	27,28

● Some illustration using in this service manual is slightly different from the actual set.

## NIPPON COLUMBIA CO., LTD.

## SAFETY PRECAUTIONS

The following check should be performed for the continued protection of the customer and service technician.

## LEAKAGE CURRENT CHECK

Before returning the unit to the customer, make sure you make either (1) a leakage current check or (2) a line to chassis resistance check. If the leakage current exceeds 0.5 milliamps, or if the resistance from chassis to either side of the power cord is less than 460 kohms, the unit is defective.

## SPECIFICATIONS

### PMA-535R

#### • POWER AMPLIFIER SECTION

##### Rated Output Power:

Both channel driven  
(8  $\Omega$ /ohms Load) 50 W + 50 W

20 Hz to 20 kHz, T.H.D. 0.07%  
(4  $\Omega$ /ohms Load) 85 W + 85 W

DIN, 1 kHz, T.H.D. 0.7%  
Total Harmonic Distortion: 0.01%

##### Total Harmonic Distortion:

(-3 dB at rated output,  
8  $\Omega$ /ohms) (1 kHz)

#### • PRE AMPLIFIER SECTION

##### Rated Output:

(Recut Terminal)

##### Input Sensitivity/

##### Input Impedance:

PHONO: 2.5 mV/47 k $\Omega$ /kohms

CD, TUNER, DVD/AUX, 150 mV/47 k $\Omega$ /kohms

##### RIAA Deviation:

PHONO: 20 Hz  $\pm$  20 kHz  $\pm$  0.5 dB

#### • OVERALL CHARACTERISTICS

##### SN Ratio (IHF A Network):

(input terminals short-

circuited)

SOURCE-DIRECT: ON

PHONO

86 dB

(at 5 mV input)

CD, TUNER,

DVD/AUX

TAPE-1/DAT, TAPE-2/MD:

107 dB

#### Tone Control Adjustable Range:

BASS:

100 Hz  $\pm$  8 dB

TREBLE:

10 kHz  $\pm$  8 dB

LOUDNESS:

100 Hz +6 dB

10 kHz +6 dB

#### • OTHERS

##### Power Supply:

AC 230 V, 50 Hz

(Europe & Asia & Hong Kong Models)

AC 120 V, 60 Hz

(U.S.A., Canada &

Taiwan R.O.C. Models)

##### AC Outlets:

Switched X 3:

120 W

(U.S.A., Canada &

Taiwan R.O.C. Models)

100 W

(Europe & Asia & Hong Kong Models)

185 W (IEC)

(Europe & Asia & Hong Kong Models)

3.0 A

(U.S.A., Canada &

Taiwan R.O.C. Models)

434 (W) X 120 (H) X 338 (D) mm

(17-3/32" X 4-23/32" X 13-19/64")

7.3 kg (16 lbs 1 oz)

##### Dimensions:

##### Net Weight:

#### • REMOTE CONTROL UNIT (RC-843)

##### Remote control system:

Infrared pulse system

##### Power supply:

3 V DC, Two size R6P ("AA")

dry cell batteries

##### External dimensions:

54 (W) X 155 (H) X 29 (D) mm

(2-1/8" X 6-7/64" X 1-1/64")

##### Weight:

100 g (Approx. 3.5 oz)

(including batteries)

### PMA-735R

#### • POWER AMPLIFIER SECTION

##### Rated Output Power:

Both channel driven  
(8  $\Omega$ /ohms Load) 65 W + 65 W

20 Hz to 20 kHz, T.H.D. 0.07%  
(4  $\Omega$ /ohms Load) 120 W + 120 W

DIN, 1 kHz, T.H.D. 0.7%  
Total Harmonic Distortion: 0.01%

##### Total Harmonic Distortion:

(-3 dB at rated output,  
8  $\Omega$ /ohms) (1 kHz)

#### • PRE AMPLIFIER SECTION

##### Rated Output:

(Recut Terminal)

##### Input Sensitivity/

##### Input Impedance:

PHONO: 2.5 mV/47 k $\Omega$ /kohms

CD, TUNER, DVD/AUX, 150 mV/47 k $\Omega$ /kohms

##### RIAA Deviation:

PHONO: 20 Hz  $\pm$  20 kHz  $\pm$  0.5 dB

#### • OVERALL CHARACTERISTICS

##### SN Ratio (IHF A Network):

(input terminals short-

circuited)

SOURCE-DIRECT: ON

PHONO

86 dB

(at 5 mV input)

CD, TUNER,

DVD/AUX

TAPE-1/DAT, TAPE-2/MD:

107 dB

#### Tone Control Adjustable Range:

BASS:

100 Hz  $\pm$  8 dB

TREBLE:

10 kHz  $\pm$  8 dB

LOUDNESS:

100 Hz +6 dB

10 kHz +6 dB

#### • OTHERS

##### Power Supply:

AC 230 V, 50 Hz

(Europe & Asia & Hong Kong Models)

AC 120 V, 60 Hz

(U.S.A., Canada &

Taiwan R.O.C. Models)

##### AC Outlets:

Switched X 3:

120 W

(U.S.A., Canada &

Taiwan R.O.C. Models)

100 W

(Europe & Asia & Hong Kong Models)

250 W (IEC)

(Europe & Asia & Hong Kong Models)

4.0 A

(U.S.A., Canada &

Taiwan R.O.C. Models)

434 (W) X 143 (H) X 344 (D) mm

(17-3/32" X 5-5/8" X 13-35/64")

9.5 kg (20 lbs 15 oz)

##### Dimensions:

##### Net Weight:

#### • REMOTE CONTROL UNIT (RC-843)

##### Remote control system:

Infrared pulse system

##### Power supply:

3 V DC, Two size R6P ("AA")

dry cell batteries

##### External dimensions:

54 (W) X 155 (H) X 29 (D) mm

(2-1/8" X 6-7/64" X 1-1/64")

##### Weight:

100 g (Approx. 3.5 oz)

(including batteries)

• Maximum dimensions include controls, jacks, and covers.

(W) = width, (H) = height, (D) = depth

• For improvement purposes, specifications and functions are subject to change without advanced notice.

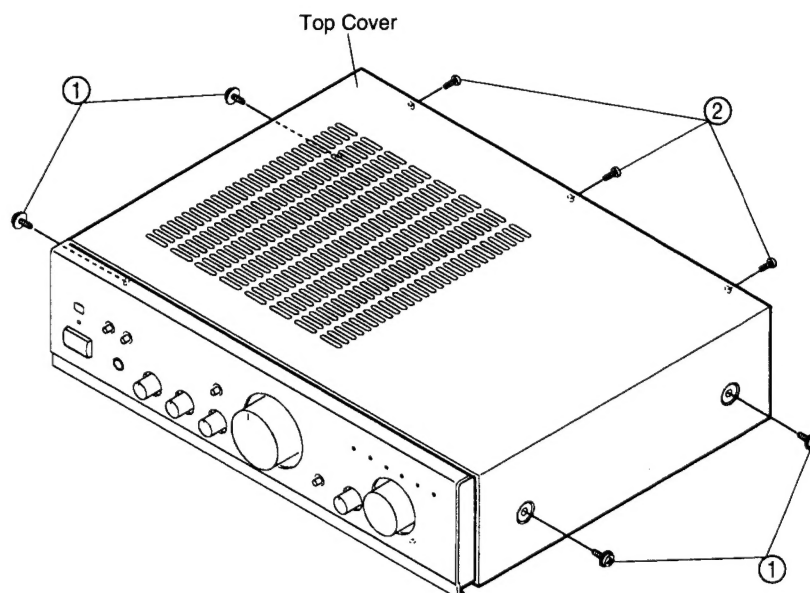
## DISASSEMBLY

(Follow in the reverse order when reassembling)

### PMA-535R

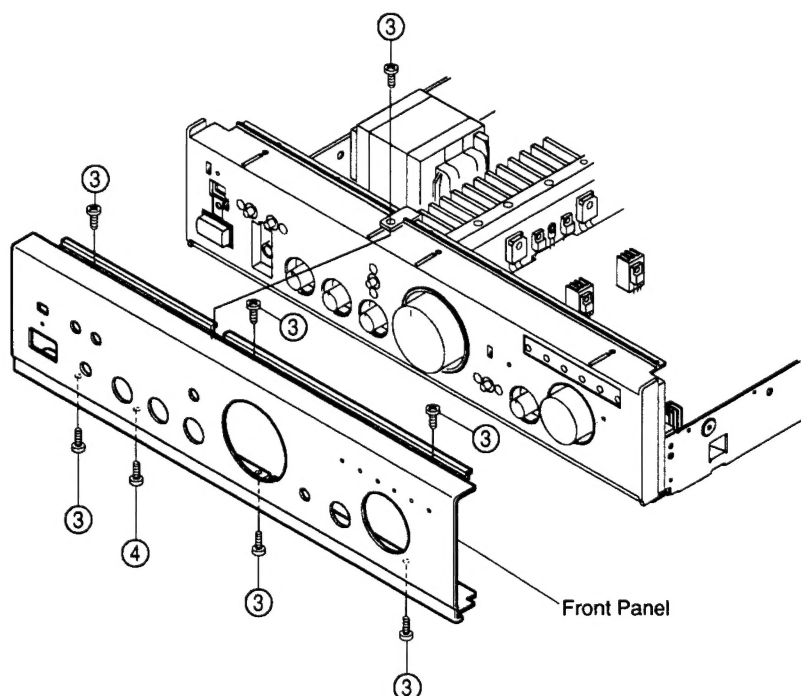
#### Top Cover

Remove 4 screws ① on both sides, 3 screws ② on the rear, then detach the Top Cover.



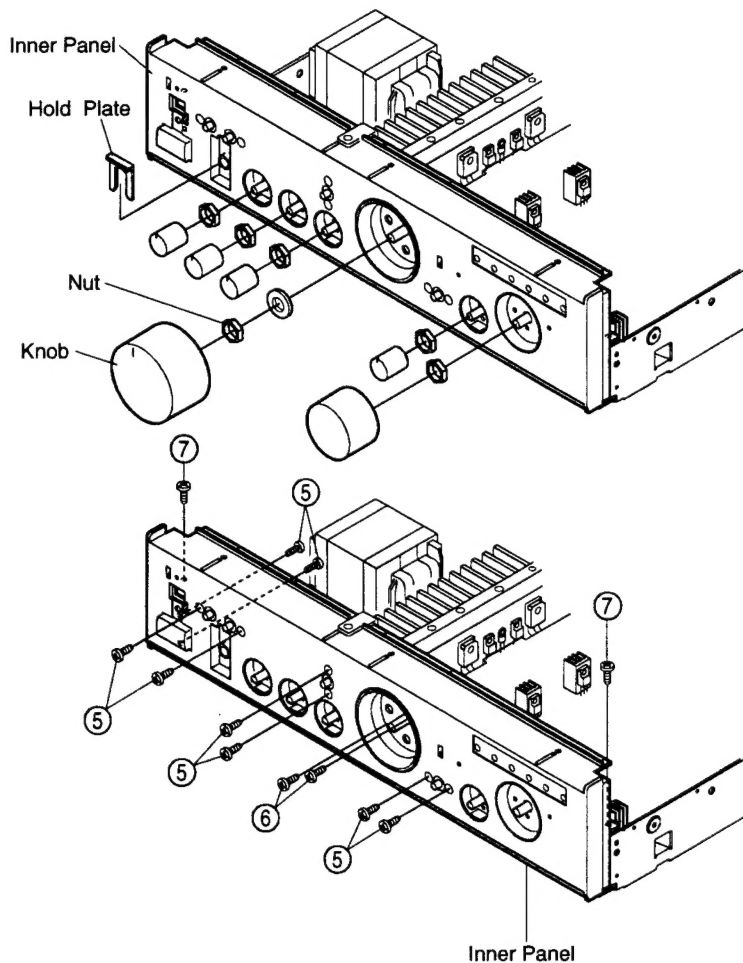
#### Front Panel

Remove 7 screws ③, 1 screw ④ on upper and lower edges of the Front Panel, then detach it.



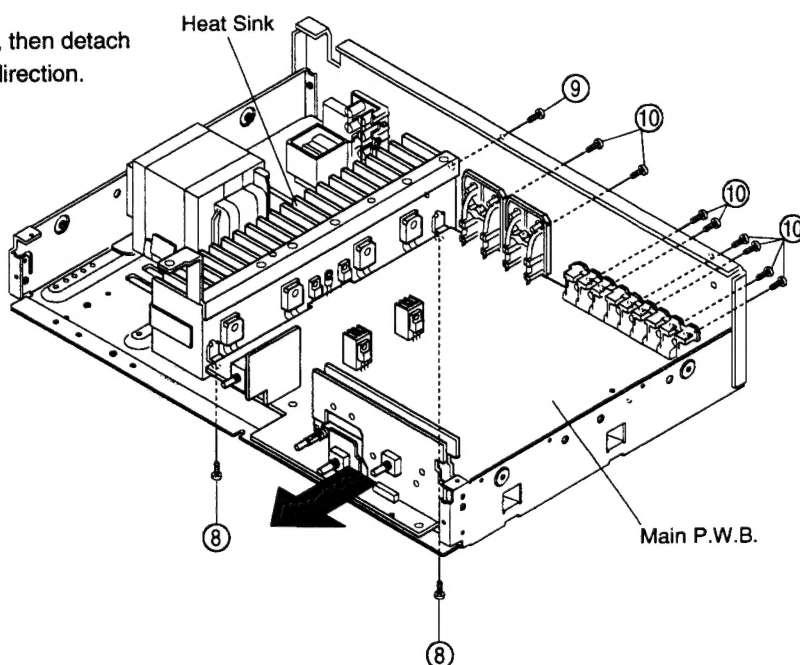
### Inner Panel

1. Take off 6 knobs, 6 nuts, and 1 hold plate.
2. Remove 8 screws ⑤ fixing each P.W.B.
3. Remove 2 screws ⑥.
4. Remove 2 screws ⑦.



### Main P.W.B. and Heat Sink

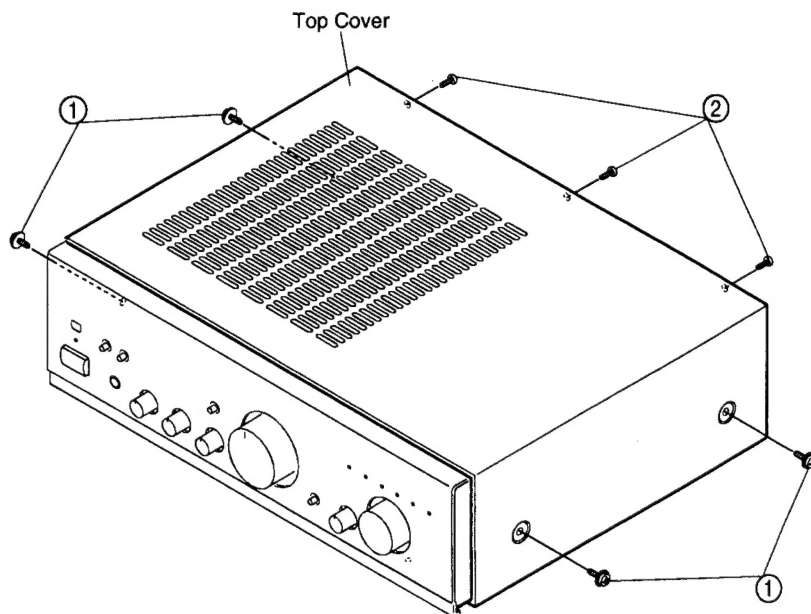
1. Remove 2 screws ⑧ on the bottom.
2. Remove 1 screw ⑨, 8 screws ⑩ on the rear, then detach the Main P.W.B. and Heat Sink in the arrow direction.



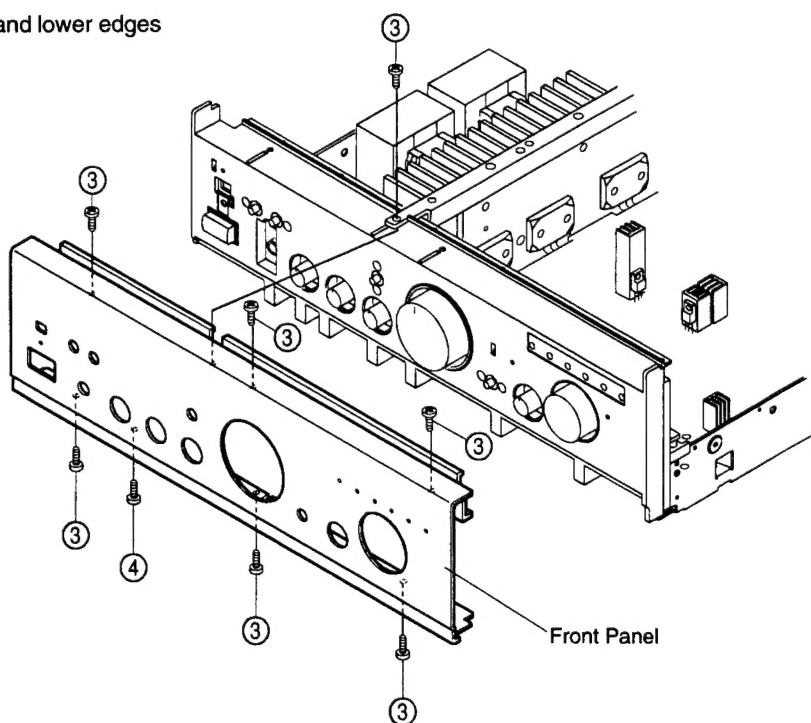


**PMA-735R****Top Cover**

Remove 4 screws ① on both sides, 3 screws ② on the rear, then detach the Top Cover.

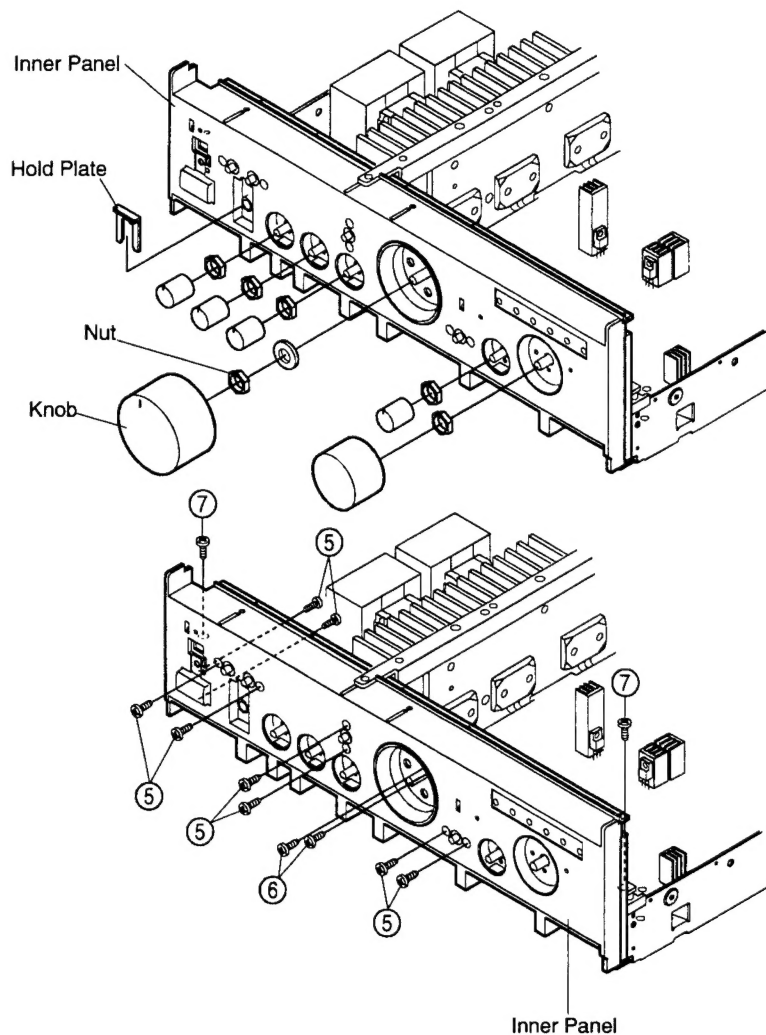
**Front Panel**

Remove 7 screws ③, 1 screw ④ on upper and lower edges of the Front Panel, then detach it.



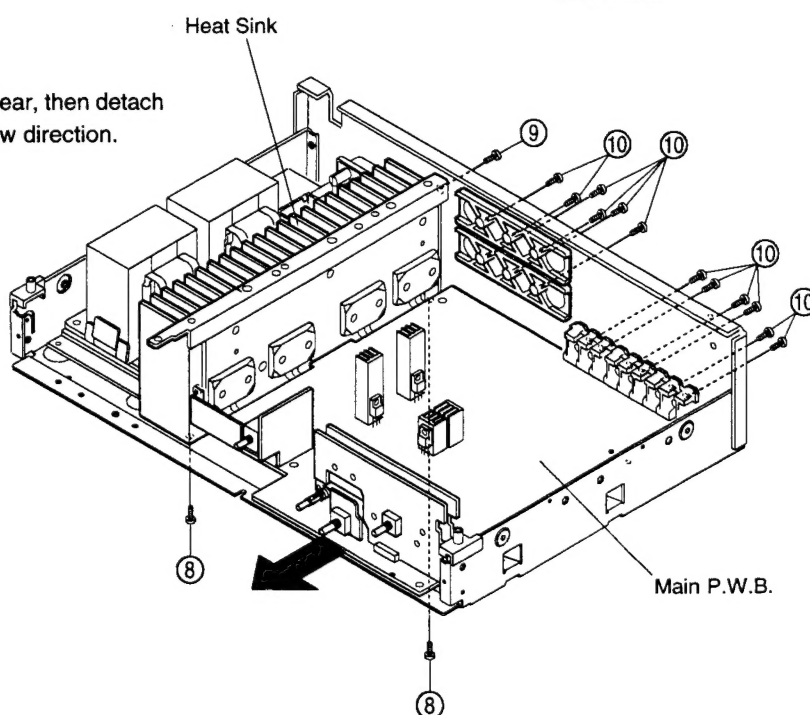
## Inner Panel

1. Take off 6 knobs, 6 nuts, and 1 hold plate.
2. Remove 8 screws (5) fixing each P.W.B.
3. Remove 2 screws (6).
4. Remove 2 screws (7).

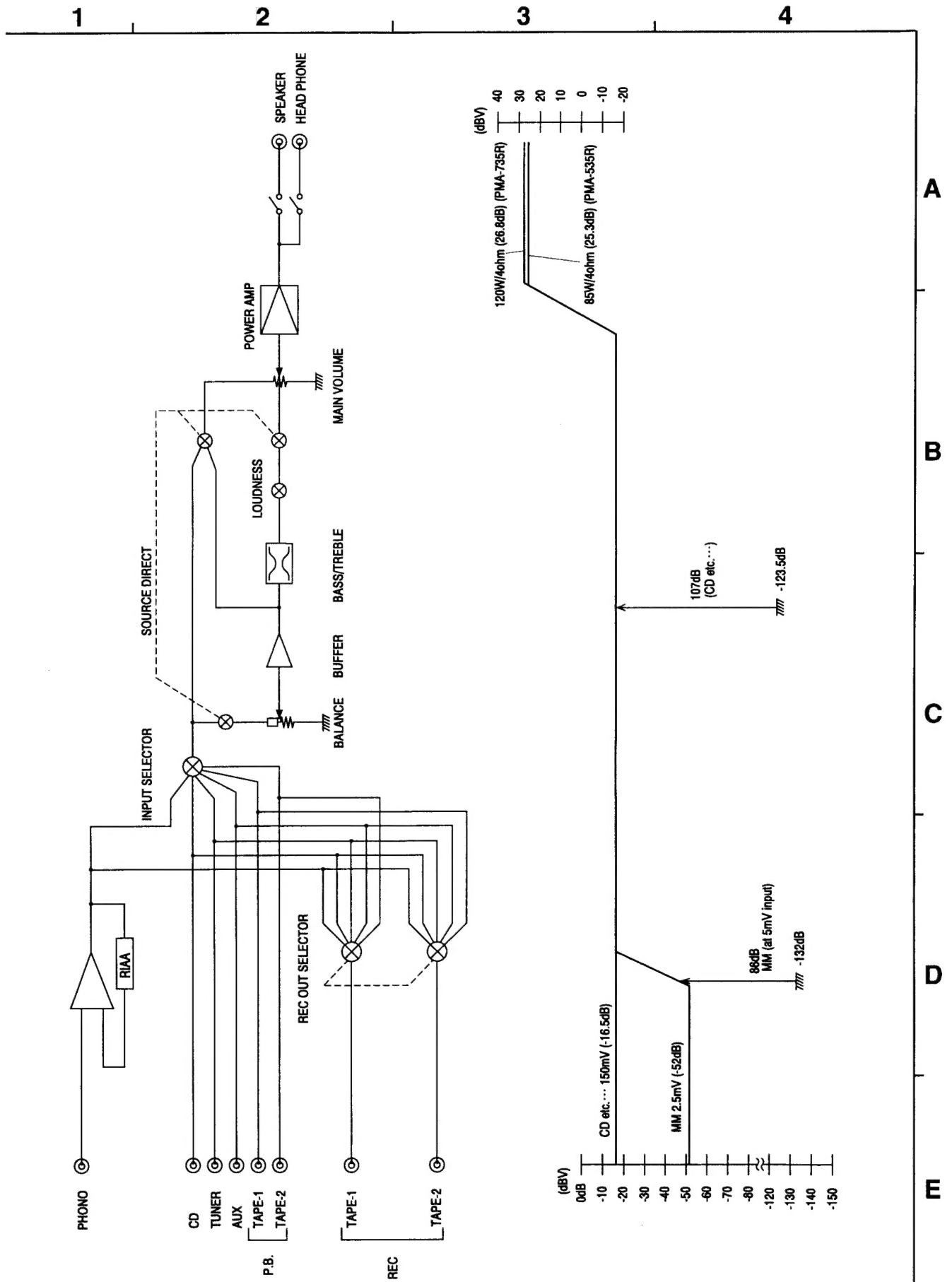


## Main P.W.B. and Heat Sink

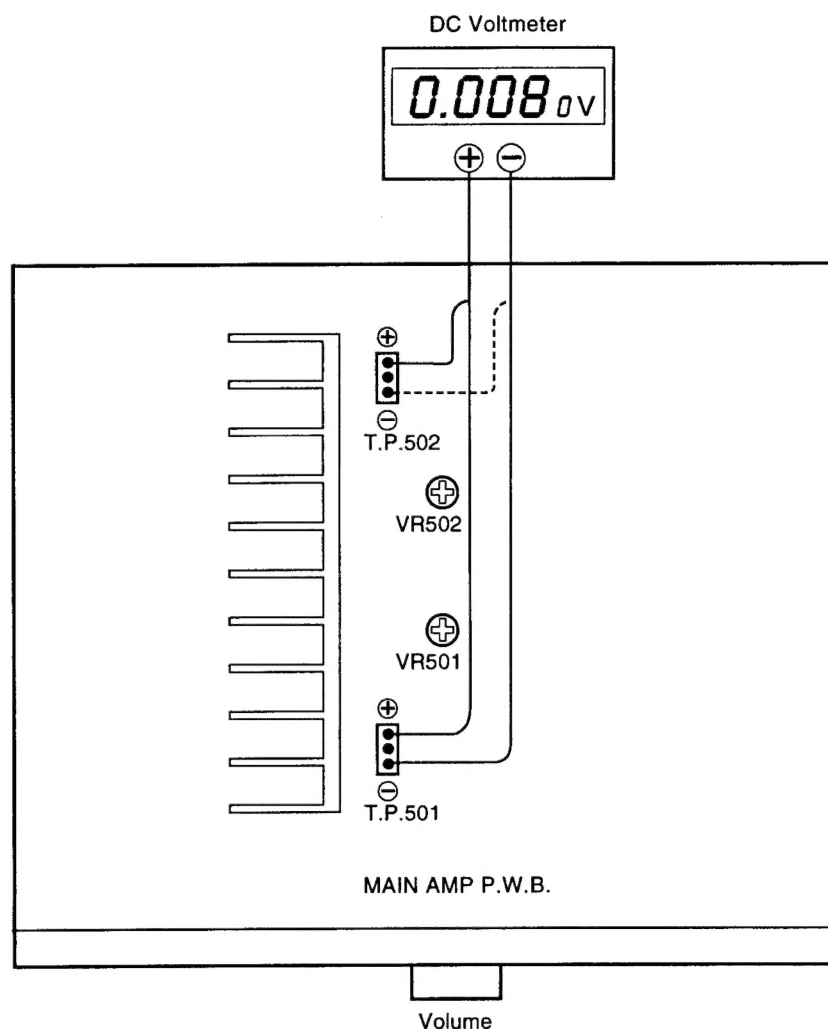
1. Remove 2 screws (8) on the bottom.
2. Remove 1 screw (9), 12 screws (10) on the rear, then detach the Main P.W.B. and Heat Sink in the arrow direction.



## BLOCK AND LEVEL DIAGRAM



## ADJUSTMENT



## IDLING CURRENT

### ● Setup

1. Place the unit at an ordinary position avoiding direct air flow from an air-conditioner or fan. Do the adjustment at a temperature between 15 °C (59 °F) and 30 °C (86 °F).
2. Set control as follows.
 

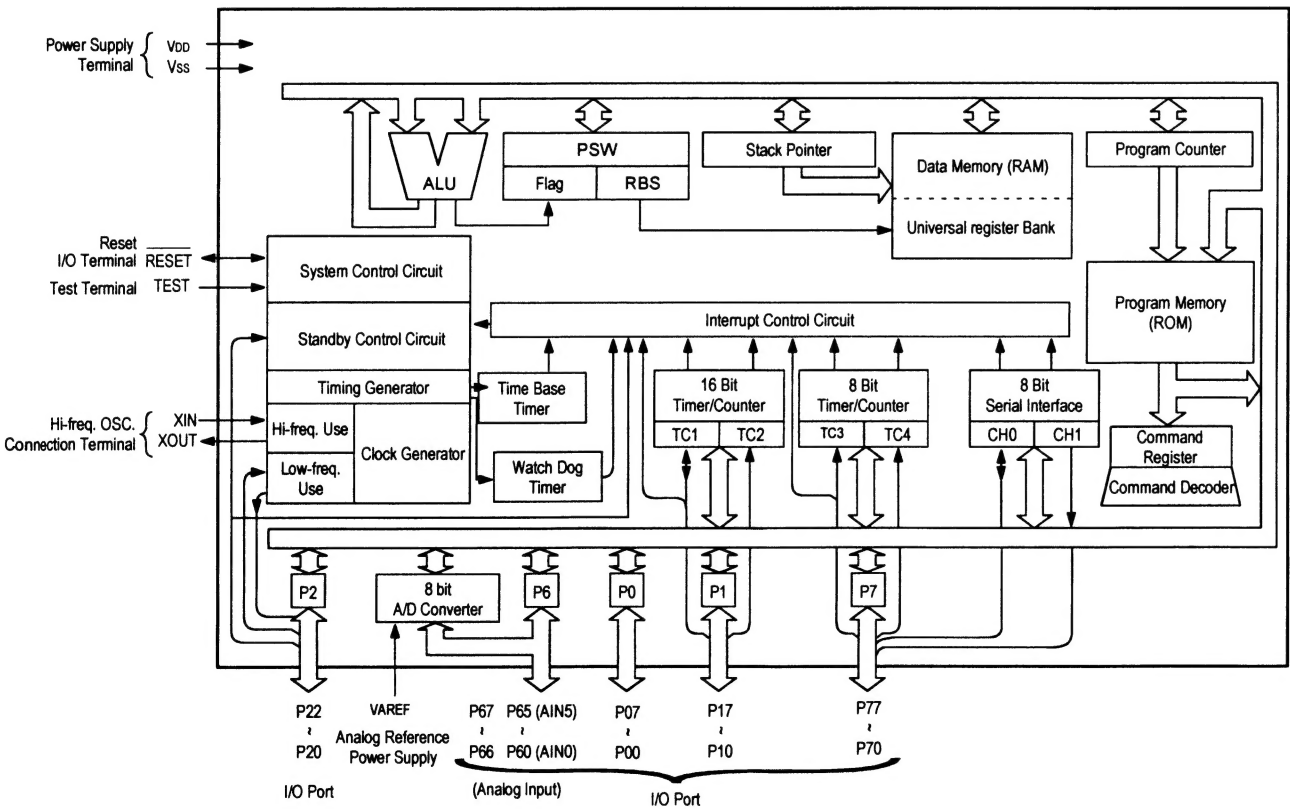
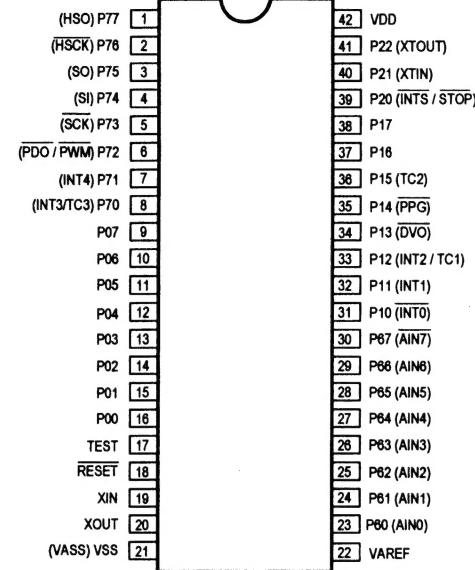
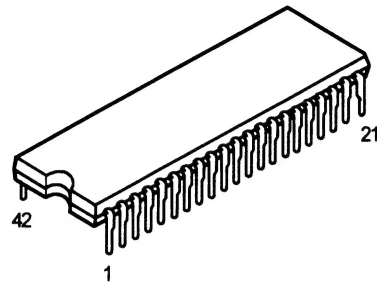
POWER switch	→	OFF (●)
VOLUME control	→	fully counterclockwise (⤿ min.)
SPEAKER terminals	→	open: do not connect the speakers, dummy load etc.

### ● Adjustment

1. Remove top cover. And then connect DC voltmeter to the test points TP501 and TP502 of MAIN AMP P.W.B. (1U-3110/PMA-535R) (1U-3156/PMA-735R).
2. Connect power cord to AC230V (218 ~ 242V) (Europe & Asia Models) or AC120V (114~126V) (U.S.A, Canada & TAIWAN R.O.C Models) wall outlet, and turn POWER switch "ON" (●).
3. Right after power on, adjust VR501 and VR502 so that the DC voltmeter reads  $10 \pm 1\text{mV}$ .
4. Then after 2 minutes warmup adjust VR501 and VR502 so that the DC voltmeter reads  $10 \pm 1\text{mV}$ .
5. And after 10 minutes warmup adjust VR501 and VR502 so that the DC voltmeter reads  $10 \pm 0.5\text{mV}$ .

SEMICONDUCTORS

● IC's  
TMP87C846N

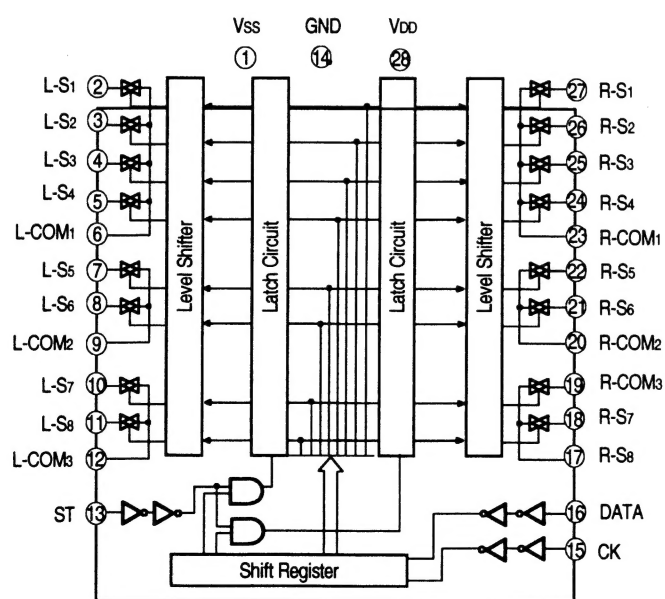
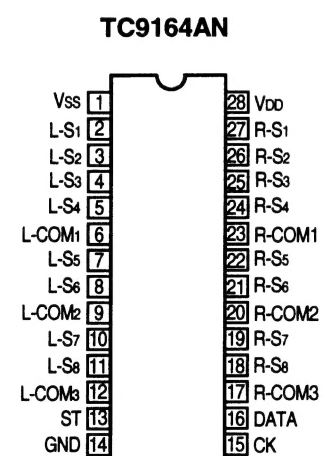
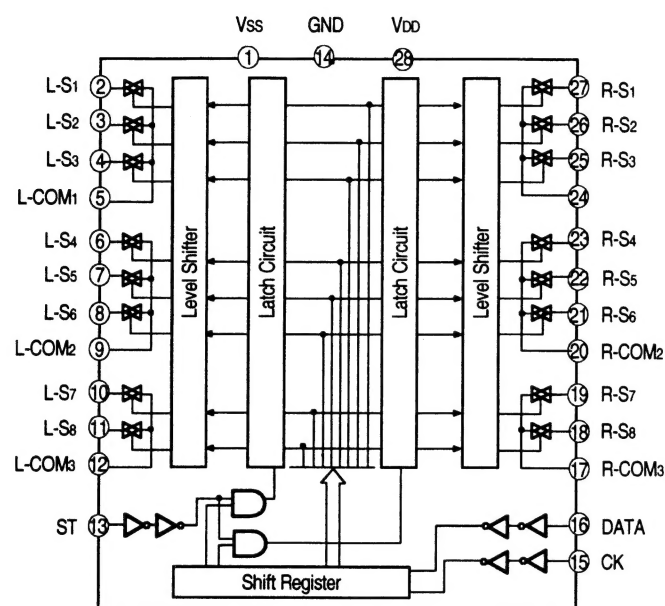
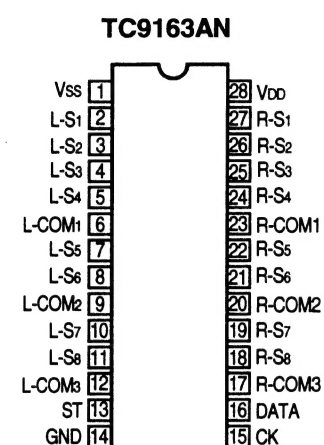
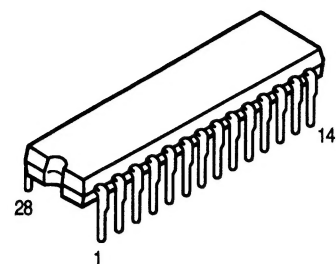


TMP87C846N Terminal Function

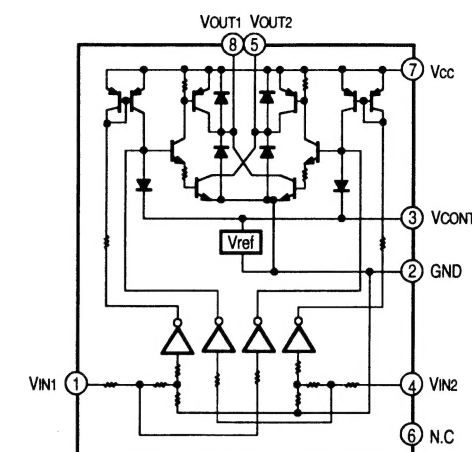
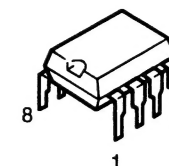
Pin No.	Port Name		I/O	Typ	Function
1	P77		O	C	AC power relay drive
2	P76		O	C	
3	P75	(SO)	O	C	Analog switch data
4	P74	(SI)	O	C	Analog switch strobe
5	P73	(SCK)	O	C	Analog switch clock
6	P72		O	C	Mute/standby LED drive
7	P71	(INT4)	O	C	Motor volume up
8	P70	(INT3)	I	C	Remote control signal input
9	P07		O	C	TAPE-2 LED drive
10	P06		O	C	TAPE-1 LED drive
11	P05		O	C	
12	P04		O	C	
13	P03		O	C	AUX LED drive
14	P02		O	C	TUNER LED drive
15	P01		O	C	CD LED drive
16	P00		O	C	PHONO LED drive
17	TEST				To Vss
18	RESET				Reset
19	XIN				X'tal input
20	XOUT				X'tal output
21	Vss	(Vass)			GND
22	VAREF				To Vdd
23	P60		I	C	
24	P61		I	C	
25	P62		I	C	REC OUT selector switch input
26	P63		I	C	Function switch encoder input
27	P64		I	C	
28	P65		O	C	Muting signal output
29	P66		O	C	
30	P67		O	C	
31	P10	(INT0)	I	C	Protector input
32	P11	(INT1)	I	C	Power off
33	P12	(INT2)	O	C	Motor volume down
34	P13		O	C	
35	P14		O	C	
36	P15		O	C	
37	P16		O	C	
38	P17		O	C	
39	P20	STOP	I	N	STOP MODE cancel
40	P21		I	N	
41	P22		I	N	
42	Vdd				+5V

**Note:** Pin: Terminal number of  $\mu$  com.  
Port: The name entered in the data sheet of  $\mu$  com.  
I/O: Input or output of port.  
"I"= Input port  
"O"= Output port  
Type: Composition of port in case of output port.  
"C"= CMOS output  
"N"= NMOS output  
Function: Function and logical level of the signals to be interfaced.

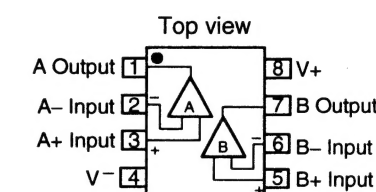
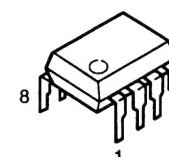
TC9163AN (IC202)  
TC9164AN (IC203)



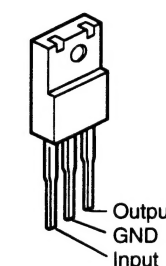
LB1639 (IC902)



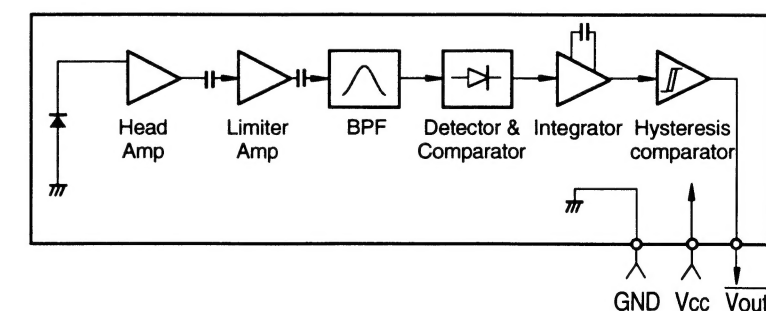
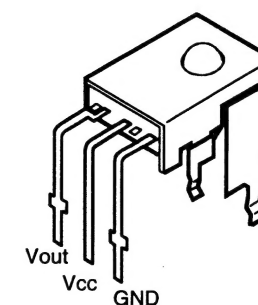
NJM2068DDC (IC401)  
BA14558 (IC301)



NJM7806FA (IC902)

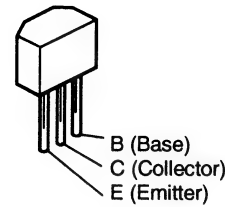


GP1U271X (Remote Control Sensor) (IC904)

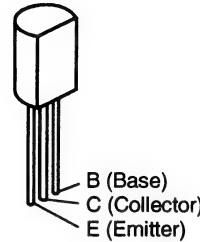


● TRANSISTORS

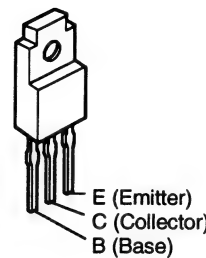
2SA933S (S)  
2SC1740 (S)



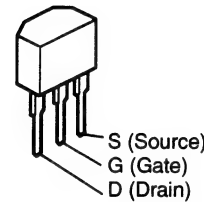
2SA988 (E/F)  
2SC1841 (E/F)



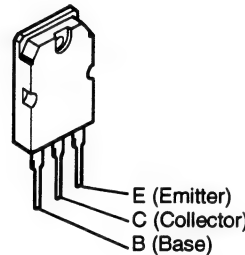
2SB1186A (D)  
2SD1763A (D)



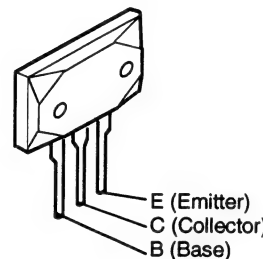
2SK184C (GR)/(BL)



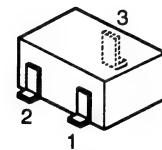
2SB1383 (P/Y)  
2SD2083 (P/Y)



MP1715  
MN1715

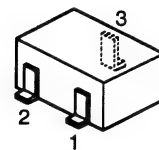


2SC2412K (S)



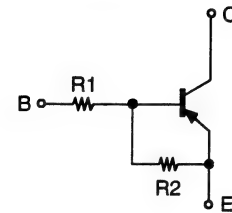
1: E (Emitter)  
2: B (Base)  
3: C (Collector)

DTA114EK  
DTC114EK



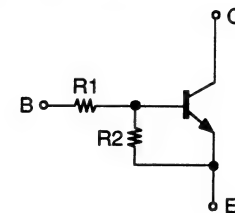
1: E (Emitter)  
2: B (Base)  
3: C (Collector)

DTA114EK



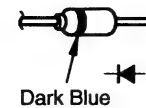
	R1	R2
DTA114EK	10 kohm	10 kohm
DTC114EK	10 kohm	10 kohm

DTC114EK

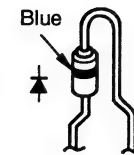


● DIODES (including LED)

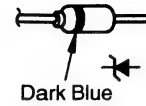
1SS252



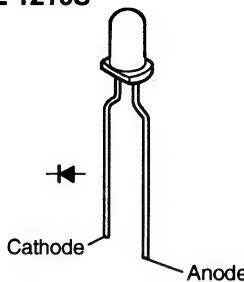
1SR35-200A



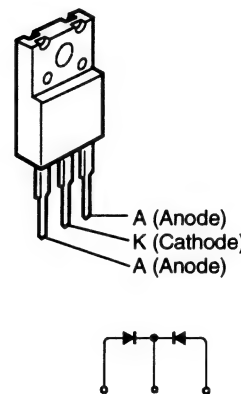
MTZJ2.7A  
MTZJ3.3A  
MTZJ7.5C  
MTZJ18A



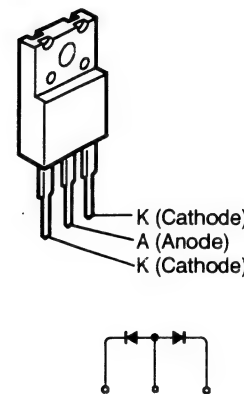
SLR56VR (LED)  
SEL-1210S



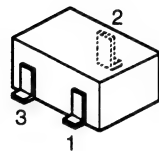
FMG-22S



FMG-22R



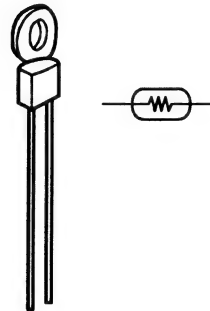
MA151WA



1: (Cathode)  
2: (Cathode)  
3: (Anode)

● POSISTOR

PTH9M04BC222TS2F333 (P701)



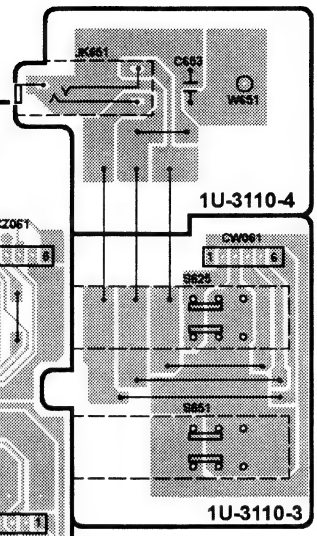
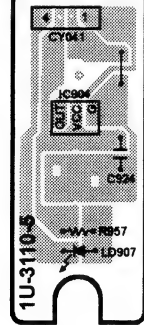
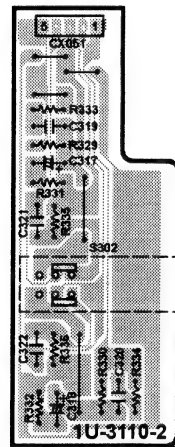
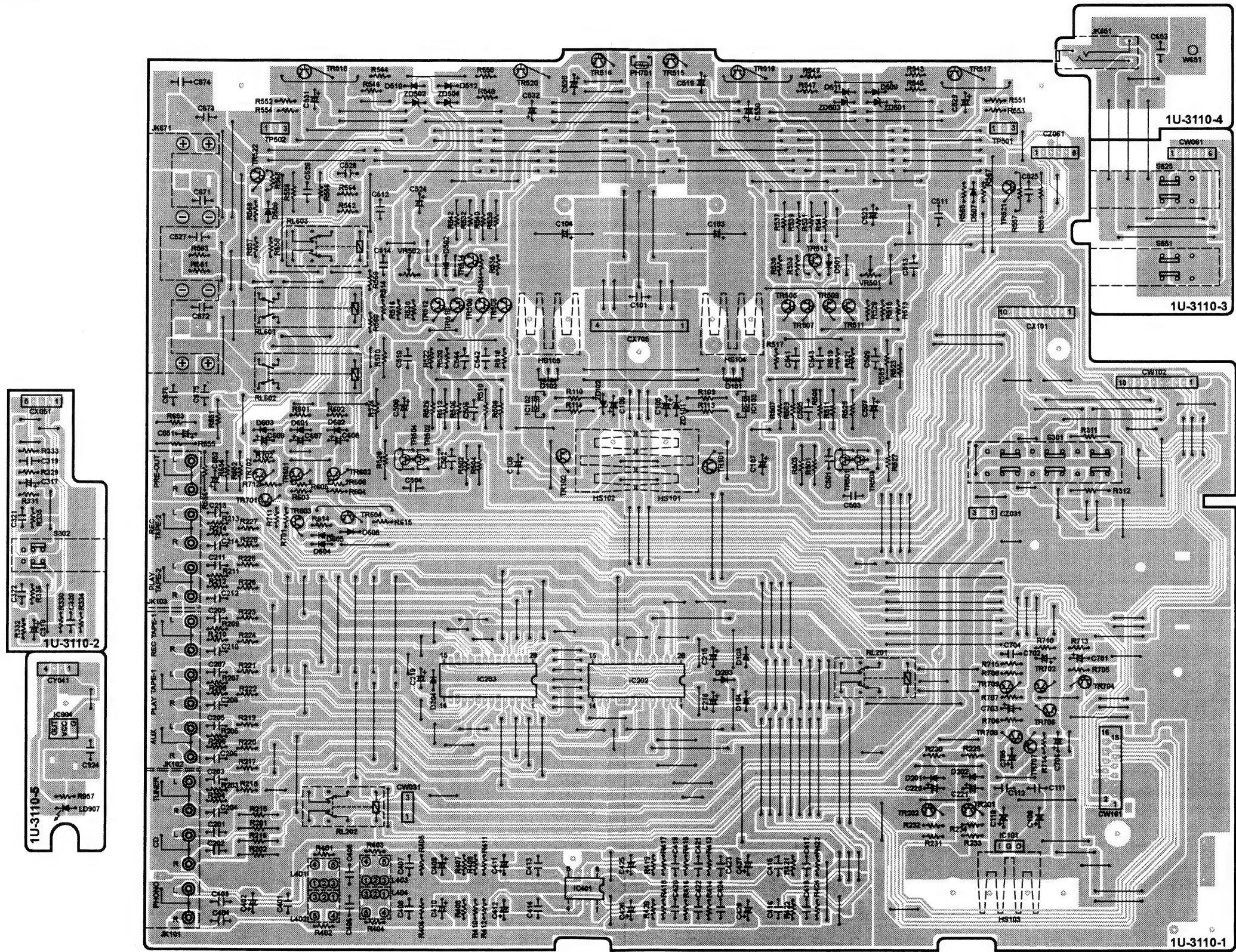


PRINTED WIRING BOARD

1 2 3 4 5 6 7 8

1U-3110 (PMA-535R)

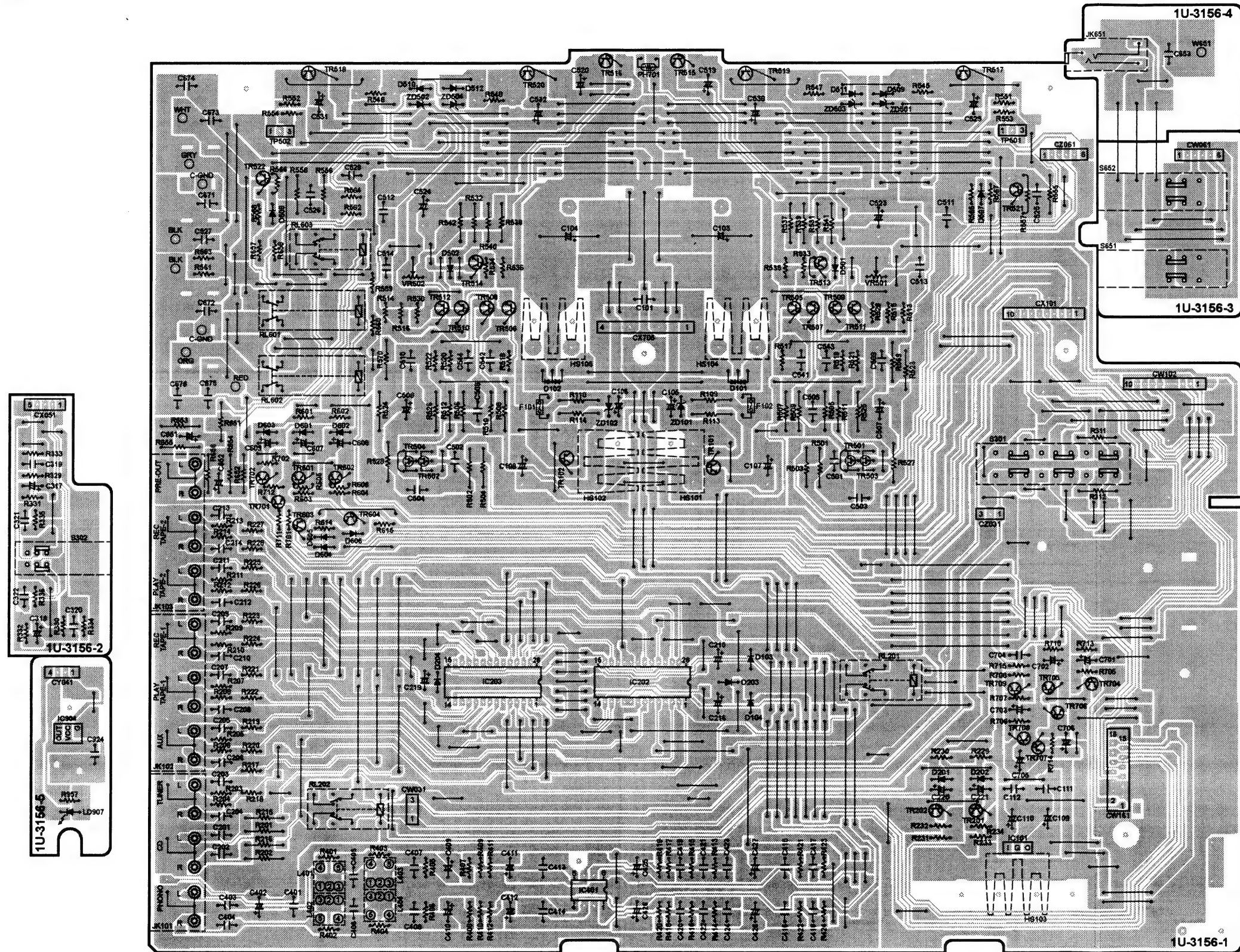
A  
B  
C  
D  
E



1U-3110-1

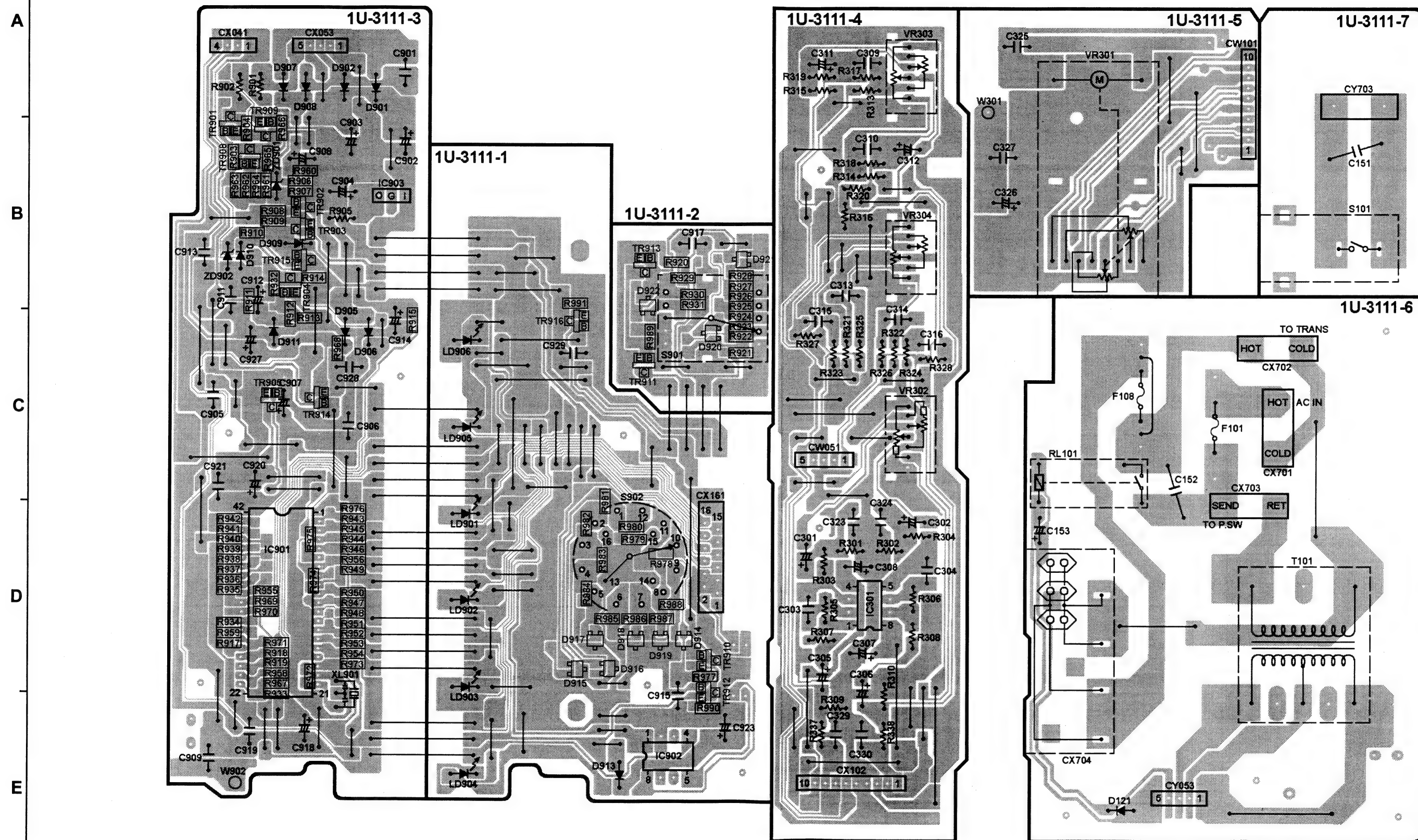


1U-3156 (PMA-735R)





## 1U-3111 (PMA-535R/735R)



## NOTE FOR PARTS LIST

- Part indicated with the mark "⊙" are not always in stock and possibly to take a long period of time for supplying, or in some case supplying of part may be refused.
- When ordering of part, clearly indicate "1" and "I" (i) to avoid mis-supplying.
- Ordering part without stating its part number can not be supplied.
- Part indicated with the mark "★" is not illustrated in the exploded view.
- Not including Carbon Film  $\pm 5\%$ , 1/4W Type in the P.W.Board parts list. (Refer to the Schematic Diagram for those parts.)

### WARNING:

Parts marked with this symbol  have critical characteristics.

Use ONLY replacement parts recommended by the manufacturer.

### ● Resistors

Ex.: RN 14K 2E 182 G FR Others  
Type Shape and performance Power Resistance Allowable error Others

RD : Carbon	2B : 1/8W	F : $\pm 1\%$	P : Pulse-resistant type
RC : Composition	2E : 1/4W	G : $\pm 2\%$	NL : Low noise type
RS : Metal oxide film	2H : 1/2W	J : $\pm 5\%$	NB : Non-burning type
RW : Winding	3A : 1W	K : $\pm 10\%$	FR : Fuse-resistor
RN : Metal film	3D : 2W	M : $\pm 20\%$	F : Lead wire forming
RK : Metal mixture	3F : 3W		
	3H : 5W		

#### \* Resistance

1 8 2  $\Rightarrow$  1800 ohm = 1.8 kohm  
Indicates number of zeros after effective number.  
2-digit effective number.

• Units: ohm

1 R 2  $\Rightarrow$  1.2 ohm  
1-digit effective number.  
2-digit effective number, decimal point indicated by R.

• Units: ohm

### ● Capacitors

Ex.: CE 04W 1H 2R2 M BP  
Type Shape and performance Dielectric strength Capacity Allowable error Others

CE : Aluminum foil electrolytic	0J : 6.3V	F : $\pm 1\%$	HS : High stability type
CA : Aluminum solid electrolytic	1A : 10V	G : $\pm 2\%$	BP : Non-polar type
CS : Tantalum electrolytic	1C : 16V	J : $\pm 5\%$	HR : Ripple-resistant type
CQ : Film	1E : 25V	K : $\pm 10\%$	DL : For charge and discharge
CK : Ceramic	1V : 35V	M : $\pm 20\%$	HF : For assuring high frequency
CC : Ceramic	1H : 50V	Z : $+80\%$	U : UL part
CP : Oil	2A : 100V	P : $-20\%$	C : CSA part
CM : Mica	2B : 125V	P : $+100\%$	W : UL-CSA type
CF : Metallized	2C : 180V	C : $\pm 0.25\text{pF}$	F : Lead wire forming
CH : Metallized	2D : 200V	D : $\pm 0.5\text{pF}$	
	2E : 250V	= : Others	
	2H : 500V		
	2J : 630V		

#### \* Capacity (electrolyte only)

2 2 2  $\Rightarrow$  2200 $\mu\text{F}$   
Indicates number of zeros after effective number.  
2-digit effective number.

• Units:  $\mu\text{F}$ .

2 R 2  $\Rightarrow$  2.2 $\mu\text{F}$   
1-digit effective number.  
2-digit effective number, decimal point indicated by R.

• Units:  $\mu\text{F}$ .

#### \* Capacity (except electrolyte)

2 2 2  $\Rightarrow$  2200pF=0.0022 $\mu\text{F}$   
(More than 2) Indicates number of zeros after effective number.  
2-digit effective number.

• Units:  $\mu\text{F}$ .

2 2 1  $\Rightarrow$  220pF  
(0 or 1) Indicates number of zeros after effective number.  
2-digit effective number.

• Units: pF.

• When the dielectric strength is indicated in AC, "AC" is included after the dielectric strength value.

## USED UNIT BY MODEL

	MAIN P.W.B. ASS'Y	U-COM P.W.B. ASS'Y
PMA535R Europe & Asia Model	1U-3110B	1U-3111B
PMA535R Taiwan R.O.C. Model	1U-3110	1U-3111D
PMA535R U.K. Model	1U-3110	1U-3111B
PMA735R Europe & Asia Model	1U-3156	1U-3111C
PMA735R Taiwan R.O.C. Model	1U-3156A	1U-3111E
PMA735R U.K. Model	1U-3156A	1U-3111C

# PARTS LIST OF P.W.B. UNIT 1U-3110B, 1U-3110 MAIN P.W.B ASS'Y

Ref. No.	Part No.	Part Name	Remarks	Ref. No.	Part No.	Part Name	Remarks
<b>SEMICONDUCTORS GROUP</b>							
IC101	263 0753 000	IC NJM7809FA(S)		R311,312	241 2425 909	Carbon film 12 kohm 1/4W	RD14B2E123J(PSNB)
IC102,103	268 0073 905	IC ICP-N15		R401,402	241 2399 938	Carbon film 2.2 kohm 1/4W	RD14B2E222J Europe Model Only
IC202	262 2487 009	IC TC9163AN		R423,424	241 2398 955	Carbon film 100 ohm 1/4W	RD14B2E102J Europe Model Only
IC203	262 2488 008	IC TC9164AN		R501,502	241 2420 988	Carbon film 220 ohm 1/4W	RD14B2E221J(PSNB)
IC401	263 0609 002	IC NJM2068DDC		R503,504	241 2429 963	Carbon film 1 Mohm 1/4W	RD14B2E105J(PSNB)
IC904	499 0290 007	Remocon sensor GP1U271X		R505,506	241 2421 903	Carbon film 270 ohm 1/4W	RD14B2E271J(PSNB)
TR101	274 0136 012	Transistor 2SD1913 (R/S)		R507,508	241 2424 900	Carbon film 4.7 kohm 1/4W	RD14B2E472J(PSNB)
TR102	272 0093 010	Transistor 2SB1274 (R/S)		R509,510	241 2424 900	Carbon film 4.7 kohm 1/4W	RD14B2E472J(PSNB)
TR201,202	273 0303 910	Transistor 2SC1740S(S)		R511,512	241 2424 968	Carbon film 8.2 kohm 1/4W	RD14B2E822J(PSNB)
TR501~504	275 0055 015	FET 2SK184C (GR)/(BL)		R513~520	241 2378 962	Carbon film 330 ohm 1/4W(NB)	RD14B2E331JNBS
TR505~508	273 0235 923	Transistor 2SC1841(E/F)		R521,522	244 2064 932	Metal oxide 3.9 kohm 1W	RS14B3A392JNBS(S)
TR509~512	271 0131 924	Transistor 2SA988(E/F)		R523,524	241 2429 963	Carbon film 1 Mohm 1/4W	RD14B2E105J(PSNB)
TR513,514	273 0235 923	Transistor 2SC1841(E/F)		R525,526	241 2425 983	Carbon film 27 kohm 1/4W	RD14B2E273J(PSNB)
TR521,522	273 0235 923	Transistor 2SC1841(E/F)		R527,528	241 2420 946	Carbon film 150 ohm 1/4W	RD14B2E151J(PSNB)
TR601,602	273 0303 910	Transistor 2SC1740S(S)		R529,530	241 2377 921	Carbon film 82 ohm 1/4W(NB)	RD14B2E820JNBS
TR603,604	269 0067 901	Transistor RN1205(2.2K-47K)		R531,532	241 2424 955	Carbon film 7.5 kohm 1/4W	RD14B2E752J(PSNB)
TR701~706	273 0303 910	Transistor 2SC1740S(S)		R533~536	241 2377 992	Carbon film 160 ohm 1/4W(NB)	RD14B2E161JNBS
TR707	271 0192 905	Transistor 2SA933S(S)		R537,538	241 2425 912	Carbon film 13 kohm 1/4W	RD14B2E133J(PSNB)
TR708	273 0303 910	Transistor 2SC1740S(S)		R539,540	241 2424 900	Carbon film 4.7 kohm 1/4W	RD14B2E472J(PSNB)
TR709	271 0131 924	Transistor 2SA988(E/F)		R541,542	241 2424 955	Carbon film 7.5 kohm 1/4W	RD14B2E752J(PSNB)
D101	276 0681 000	Diode FMG-22S		R543~550	244 2043 982	Metal oxide 0.22 ohm 1W	RS14B3AR22JNBS(S)
D102	276 0682 009	Diode FMG-22R		R555~558	241 2425 967	Carbon film 22 kohm 1/4W	RD14B2E223J(PSNB)
D103,104	276 0553 905	Diode 1SR35-200A		R561~564	244 2043 937	Metal oxide 10 ohm 1W	RS14B3A100JNBS(S)
D201~204	276 0616 907	Diode 1SS252		R651,652	241 2425 909	Carbon film 12 kohm 1/4W	RD14B2E123J(PSNB)
D501,502	276 0616 907	Diode 1SS252		R653,654	241 2422 902	Carbon film 680 ohm 1/4W	RD14B2E681J(PSNB)
D507~512	276 0616 907	Diode 1SS252		R655,656	241 2427 923	Carbon film 100 kohm 1/4W	RD14B2E104J(PSNB)
D601~606	276 0616 907	Diode 1SS252		R657,658	244 2052 931	Metal oxide 390 ohm 1W	RS14B3A391JNBS(S)
ZD101,102	276 0645 907	Zener diode MTZJ18A	18V	R996	241 2429 963	Carbon film 1 Mohm 1/4W	RD14B2E105J(PSNB)
ZD501~504	276 0643 925	Zener diode MTZJ2.7A	2.7V	R998	241 2429 963	Carbon film 1 Mohm 1/4W	RD14B2E105J(PSNB)
LD907	393 9539 908	LED SLR-342VRTF7LM		VR501,502	211 6075 024	Semi fixed resistor 4.7 kohm	V06PB472 (CERMET)
<b>RESISTORS GROUP</b>				<b>CAPACITORS GROUP</b>			
R109,110	241 2425 967	Carbon film 22 kohm 1/4W	RD14B2E223J(PSNB)	C101	256 1042 903	Metalized 0.1 $\mu$ F/250V	CF93A2E104K
R113,114	241 2422 944	Carbon film 1 kohm 1/4W	RD14B2E102J(PSNB)	C103,104	254 4519 709	Electrolytic 8200 $\mu$ F/56V	CE04W==822MC(DL)
R201,202	241 2428 935	Carbon film 300 kohm 1/4W	RD14B2E304J(PSNB)	C105,106	254 4260 980	Electrolytic 10 $\mu$ F/50V	CE04W1H100M Europe Model
R215,216	241 2420 988	Carbon film 220 ohm 1/4W	RD14B2E221J(PSNB)	C105,106	254 4313 918	Electrolytic 10 $\mu$ F/50V	CE04W1H100M(ASF) Taiwan R.O.C Model
				C107~109	254 4256 952	Electrolytic 220 $\mu$ F/25V	CE04W1E221M Europe Model
				C107~109	254 4368 947	Electrolytic 220 $\mu$ F/25V	CE04W1E221M(ASF) Taiwan R.O.C Model
				C110	254 4260 948	Electrolytic 1 $\mu$ F/50V	CE04W1H010M



Ref. No.	Part No.	Part Name	Remarks	Ref. No.	Part No.	Part Name	Remarks
C201,202	255 4237 929	Polypropylene film 56 pF/100V	CQ93P2A560J(NH) Europe Model Only	C651,652	254 4261 918	Electrolytic 47 $\mu$ F/50V	CE04W1H470M
C203~214	253 4537 982	Ceramic 56 pF/50V	CC45SL1H560J(DD-3) Europe Model Only	C653	255 1264 908	Mylar film 1000 pF/50V	CQ93M1H102J(B)
C219	254 4260 993	Electrolytic 22 $\mu$ F/50V	CE04W1H220M Europe Model	C671,672	255 1264 940	Mylar film 2200 pF/50V	CQ93M1H222J(B)
C219	254 4313 921	Electrolytic 22 $\mu$ F/50V	CE04W1H220M(ASF) Taiwan R.O.C Model	C673~676	255 1265 936	Mylar film 0.01 $\mu$ F/50V	Europe Model Only CQ93M1H103J(B)
C317,318	254 4260 906	Electrolytic 0.1 $\mu$ F/50V	CE04W1H0R1M	C701,702	254 4256 949	Electrolytic 100 $\mu$ F/25V	CE04W1E101M
C319,320	255 1265 978	Mylar film 0.022 $\mu$ F/50V	CQ93M1H223J(B)	C703	254 4261 905	Electrolytic 33 $\mu$ F/50V	CE04W1H330M
C321,322	255 1265 936	Mylar film 0.01 $\mu$ F/50V	CQ93M1H103J(B)	C704	255 1265 936	Mylar film 0.01 $\mu$ F/50V	CQ93M1H103J(B)
C401	255 1264 953	Mylar film 2700 pF/50V	CQ93M1H272J(B) Europe Model Only	C705	254 4260 919	Electrolytic 0.22 $\mu$ F/50V	CE04W1HR22M
C403~406	253 4538 965	Ceramic 120 pF/50V	CC45SL1H121J(DD-3) Europe Model Only	C706	254 4260 948	Electrolytic 1 $\mu$ F/50V	CE04W1H010M
C407,408	253 1179 929	Ceramic 150 pF/50V	CK45B1H151K(DD-3)	C924	255 1265 936	Mylar film 0.01 $\mu$ F/50V	CQ93M1H103J(B)
C409,410	254 4254 909	Electrolytic 10 $\mu$ F/16V	CE04W1C100M	<b>OTHER PARTS</b>			<b>Q'ty</b>
C411,412	254 4252 943	Electrolytic 220 $\mu$ F/10V	CE04W1A221M	CW061	205 0343 061	6P connector base (KR-PH)	1
C413,414	253 4538 949	Ceramic 100 pF/50V	CC45SL1H101J(DD-3) Europe Model Only	CW102	205 1081 005	10P FJ connector base	1
C417,418	255 1264 908	Mylar film 1000 pF/50V	CQ93M1H102J(B) Europe Model Only	CW161	205 1056 027	16P connector socket TKC-V	1
C419,420	255 1265 907	Mylar film 6800 pF/50V	CQ93M1H682J(B)	CX051	205 0885 008	5P connector socket (TUC-P)	1
C421,422	255 1265 978	Mylar film 0.022 $\mu$ F/50V	CQ93M1H223J(B)	CX101	205 0884 054	10P connector base (TUC-P)	1
C423,424	255 1264 940	Mylar film 2200 pF/50V	CQ93M1H222J(B)	CX705	205 0087 042	4P wrapping terminal	1
C425,426	254 4260 948	Electrolytic 1 $\mu$ F/50V	CE04W1H010M Europe Model	CY041	205 0343 045	4P connector base (KR-PH)	1
C425,426	254 4313 963	Electrolytic 1 $\mu$ F/50V	CE04W1H010M(ASF) Taiwan R.O.C Model	CZ061	205 0343 061	6P connector base (KR-PH)	1
C427,428	254 4260 951	Electrolytic 2.2 $\mu$ F/50V	CE04W1H2R2M	JK101~103	204 8543 006	6 P pin jack	3
C501,502	255 4235 918	Polypropylene film 100 pF/100V	CQ93P2A101J(NH)	JK651	204 8341 004	Headphones jack	1
C503,504	255 4235 918	Polypropylene film 100 pF/100V	CQ93P2A101J(NH) Except Europe Gold Model	JK701	205 0472 013	8P SP terminal (EAEK)	Taiwan R.O.C Model 1
C505,506	255 1264 908	Mylar film 1000 pF/50V	CQ93M1H102J(B)	L401,402	235 9003 002	FTZ choke coil	Europe Model Only 2
C507,508	254 4256 936	Electrolytic 47 $\mu$ F/25V	CE04W1E470M Europe Model	RL201,202	214 0127 003	Relay (RY-12W)	2
C507,508	254 4492 907	Electrolytic 47 $\mu$ F/25V	CE04W1E470M(ASF) Taiwan R.O.C Model	RL601,602	214 0195 006	Relay FTR-F1	2
C509,510	255 4232 924	Polypropylene film 39 pF/100V	CQ93P2A390J(NH)	RL603	214 0127 003	Relay (RY-12W)	1
C521,522	255 4235 918	Polypropylene film 100 pF/100V	CQ93P2A101J(NH) Europe Gold Model Only	S301	212 1130 006	1P push switch	1
C523,524	254 4261 921	Electrolytic 100 $\mu$ F/50V	CE04W1H101M Europe Model	S302	212 1175 003	1P push switch	1
C523,524	254 4313 950	Electrolytic 100 $\mu$ F/50V	CE04W1H101M(ASF) Taiwan R.O.C Model	S651	212 4690 006	2P push switch	1
C525,526	255 1264 908	Mylar film 1000 pF/50V	CQ93M1H102J(B)	TP501,502	205 0190 036	3P NH connector base	2
C527,528	256 1058 971	Metalized 0.1 $\mu$ F/50V	CF93A1H104J (JL)	W651	203 0501 027	1P SIN con. Ass'y	1
C529~532	254 4262 904	Electrolytic 4.7 $\mu$ F/63V	CE04W1J4R7M Europe Model Only		205 0484 001	8P SP terminal (E2)	Europe Model 1
C541~544	255 1264 940	Mylar film 2200 pF/50V	CQ93M1H222J(B)		417 0476 007	Radiator	3
					471 3304 028	Screw 3 x 8 CBS-B	3

## 1U-3111B, 1U-3111C, 1U-3111D, 1U-3111E U-COM P.W.B ASS'Y

Ref. No.	Part No.	Part Name	Remarks	Ref. No.	Part No.	Part Name	Remarks
<b>SEMICONDUCTORS GROUP</b>				R925	247 0005 989	Carbon chip 220 ohm 1/10W	RM73B-221J
IC301	263 0322 004	IC BA4558		R926	247 0006 917	Carbon chip 300 ohm 1/10W	RM73B-301J
IC901	262 2469 001	IC TMP87C846N-***		R927	247 0006 946	Carbon chip 390 ohm 1/10W	RM73B-391J
IC902	263 0476 002	IC LB1639		R928	247 0006 991	Carbon chip 620 ohm 1/10W	RM73B-621J
IC903	263 0793 002	IC NJM7806FA(S)		R929	247 0007 945	Carbon chip 1 kohm 1/10W	RM73B-102J
TR901,902	273 0384 900	Transistor 2SC2412K(S)		R930	247 0008 915	Carbon chip 2 kohm 1/10W	RM73B-202J
TR903	269 0082 902	Transistor DTC114EK		R931	247 0009 930	Carbon chip 6.2 kohm 1/10W	RM73B-622J
TR904	273 0384 900	Transistor 2SC2412K(S)		R932	247 0009 985	Carbon chip 10 kohm 1/10W	RM73B-103J
TR905	269 0082 902	Transistor DTC114EK		R933	247 0009 901	Carbon chip 4.7 kohm 1/10W	RM73B-472J
TR908,909	273 0384 900	Transistor 2SC2412K(S)		R934-939	247 0011 944	Carbon chip 47 kohm 1/10W	RM73B-473J
TR910-916	269 0083 901	Transistor DTA114EK		R940	247 0007 945	Carbon chip 1 kohm 1/10W	RM73B-102J
D121	276 0616 907	Diode 1SS252		R941-943	247 0011 944	Carbon chip 47 kohm 1/10W	RM73B-473J
D901,902	276 0553 905	Diode 1SR35-200A		R944-946	247 0007 945	Carbon chip 1 kohm 1/10W	RM73B-102J
D905-908	276 0553 905	Diode 1SR35-200A		R947,948	247 0011 944	Carbon chip 47 kohm 1/10W	RM73B-473J
D909-911	276 0616 907	Diode 1SS252		R949-954	247 0006 988	Carbon chip 560 ohm 1/10W	RM73B-561J
D913	276 0616 907	Diode 1SS252		R955,956	247 0009 985	Carbon chip 10 kohm 1/10W	RM73B-103J
D914-922	276 0438 907	Diode MA151WA		R958,959	247 0011 944	Carbon chip 47 kohm 1/10W	RM73B-473J
ZD901	276 0635 904	Zener diode MTZJ7.5C	7.5V	R961	247 0012 927	Carbon chip 100 kohm 1/10W	RM73B-104J
ZD902	276 0634 905	Zener diode MTZJ3.3A	3.3V	R962	247 0009 985	Carbon chip 10 kohm 1/10W	RM73B-103J
LD901-906	393 9434 906	LED SEL1210S	Red	R963-966	247 0009 901	Carbon chip 4.7 kohm 1/10W	RM73B-472J
<b>RESISTORS GROUP</b>				R967	247 0011 944	Carbon chip 47 kohm 1/10W	RM73B-473J
R901,902	241 2376 922	Carbon film 33 ohm 1/4W(NB)	RD14B2E330JNBS PMA-535R Only	R968	247 0009 901	Carbon chip 4.7 kohm 1/10W	RM73B-472J
R903	247 0009 901	Carbon chip 4.7 kohm 1/10W	RM73B-472J PMA-535R Only	R969-971	247 0007 945	Carbon chip 1 kohm 1/10W	RM73B-102J
R904	247 0011 944	Carbon chip 47 kohm 1/10W	RM73B-473J PMA-535R Only	R972	247 0014 967	Carbon chip 1 Mohm 1/10W	RM73B-105J
R905	241 2387 940	Carbon film 4.7 ohm 1/4W(NB)	RD14B2E4R7JNBS PMA-535R Only	R973-977	247 0007 945	Carbon chip 1 kohm 1/10W	RM73B-102J
R906,907	247 0011 944	Carbon chip 47 kohm 1/10W	RM73B-473J	R978	247 0004 993	Carbon chip 91 ohm 1/10W	RM73B-910J
R908	247 0007 945	Carbon chip 1 kohm 1/10W	RM73B-102J	R979	247 0005 918	Carbon chip 110 ohm 1/10W	RM73B-111J
R909	247 0009 901	Carbon chip 4.7 kohm 1/10W	RM73B-472J	R980	247 0005 934	Carbon chip 130 ohm 1/10W	RM73B-131J
R910	247 0007 945	Carbon chip 1 kohm 1/10W	RM73B-102J	R981	247 0005 950	Carbon chip 160 ohm 1/10W	RM73B-161J
R911	247 0009 985	Carbon chip 10 kohm 1/10W	RM73B-103J	R982	247 0005 989	Carbon chip 220 ohm 1/10W	RM73B-221J
R912	247 0009 901	Carbon chip 4.7 kohm 1/10W	RM73B-472J	R983	247 0006 917	Carbon chip 300 ohm 1/10W	RM73B-301J
R913	247 0009 985	Carbon chip 10 kohm 1/10W	RM73B-103J	R984	247 0006 946	Carbon chip 390 ohm 1/10W	RM73B-391J
R914	247 0013 900	Carbon chip 220 kohm 1/10W	RM73B-224J	R985	247 0006 991	Carbon chip 620 ohm 1/10W	RM73B-621J
R915	247 0009 985	Carbon chip 10 kohm 1/10W	RM73B-103J	R986	247 0007 945	Carbon chip 1 kohm 1/10W	RM73B-102J
R917	247 0011 944	Carbon chip 47 kohm 1/10W	RM73B-473J	R987	247 0008 915	Carbon chip 2 kohm 1/10W	RM73B-202J
R918-920	247 0007 945	Carbon chip 1 kohm 1/10W	RM73B-102J	R988	247 0009 930	Carbon chip 6.2 kohm 1/10W	RM73B-622J
R921	247 0004 993	Carbon chip 91 ohm 1/10W	RM73B-910J	R989-991	247 0009 901	Carbon chip 4.7 kohm 1/10W	RM73B-472J
R922	247 0005 918	Carbon chip 110 ohm 1/10W	RM73B-111J	VR301	211 0904 007	Variable resistor 100 kohm	V1620V20FB104R
R923	247 0005 934	Carbon chip 130 ohm 1/10W	RM73B-131J	VR302	211 0798 103	Variable resistor 100 kohm	V14V20FW104K
R924	247 0005 950	Carbon chip 160 ohm 1/10W	RM73B-161J	VR303	211 0834 025	Variable resistor 100 kohm	V14V20FA104K
				VR304	211 0834 009	Variable resistor 30 kohm	V14V20FA303K

Ref. No.	Part No.	Part Name	Remarks	Ref. No.	Part No.	Part Name	Remarks	Q'ty
<b>CAPACITORS GROUP</b>				<b>OTHER PARTS</b>				
C151,152	253 8003 713	Ceramic 4700 pF/400V(AC)	CK45E2GAC472MC	CW051	205 0884 009	5P connector base (TUC-P)		1
C153	254 4313 921	Electrolytic 22 $\mu$ F/50V	CE04W1H220M(ASF)	CW101	205 0885 053	10P connector socket (TUC-P)		1
C301,302	254 4254 909	Electrolytic 10 $\mu$ F/16V	CE04W1C100M	CX041	205 0343 045	4P connector base (KR-PH)		1
C303,304	253 4538 949	Ceramic 100 pF/50V	CC45SL1H101J(DD-3)	CX053	205 0343 058	5P connector base (KR-PH)		1
C305,306	254 4254 909	Electrolytic 10 $\mu$ F/16V	CE04W1C100M	CX102	205 1000 002	10P FJ connector plug		1
C307,308	254 4313 963	Electrolytic 1 $\mu$ F/50V	CE04W1H010M(ASF)	CX161	205 1055 028	16P connector base (TKC-V)		1
C309,310	256 1058 926	Metalized 0.039 $\mu$ F/50V	CF93A1H393J (JL)	CX701-703	205 0606 025	2P wrapping terminal		3
C311,312	254 4260 919	Electrolytic 0.22 $\mu$ F/50V	CE04W1HR22M					
C313,314	255 1265 936	Mylar film 0.01 $\mu$ F/50V	CQ93M1H103J(B)	CY053	205 0343 058	5P connector base (KR-PH)		1
C315,316	256 1058 939	Metalized 0.047 $\mu$ F/50V	CF93A1H473J (JL)	CY703	205 0442 001	2P wrapping terminal		1
C323,324	253 4537 982	Ceramic 56 pF/50V	CC45SL1H560J(DD-3)					
C325	255 1265 936	Mylar film 0.01 $\mu$ F/50V	CQ93M1H103J(B)	Δ F101	206 1015 058	Fuse 1.6A	PMA-535R Europe & U.K.Model	1
C327	255 4235 976	Polypropylene film 0.015 $\mu$ F/100V	CQ93P2A153J(NH)	Δ F101	206 1046 027	Fuse 5A	PMA-535R Taiwan R.O.C Model	1
C329,330	255 1264 908	Mylar film 1000 pF/50V	CQ93M1H102J(B)	Δ F101	206 1015 032	Fuse 2.5A	PMA-735R Europe & U.K.Model	1
C901	256 1058 971	Metalized 0.1 $\mu$ F/50V	CF93A1H104J (JL)					
C902	254 4313 921	Electrolytic 22 $\mu$ F/50V	CE04W1H220M(ASF)	RL101	214 0142 004	Relay (TV-5)		1
C903	254 4403 718	Electrolytic 1000 $\mu$ F/25V	CE04W1E102MC (SMG)	Δ S101	212 1030 009	Power switch (TV-5)		1
C904	254 4260 948	Electrolytic 1 $\mu$ F/50V	CE04W1H010M	S901	212 0405 004	Rotary switch (6-1)		1
C907	254 4406 702	Electrolytic 3300 $\mu$ F/16V	CE04W1C332MC(SMG)	S902	212 0407 002	Rotary switch (SRRM-12)		1
C908	254 4260 919	Electrolytic 0.22 $\mu$ F/50V	CE04W1HR22M	Δ T101	233 6257 004	Power trans. mini E2	Europe & U.K.Models	1
C911	255 1265 936	Mylar film 0.01 $\mu$ F/50V	CQ93M1H103J(B)	Δ T101	233 6267 007	Power trans. mini E3	Taiwan R.O.C Model	1
C912	254 4260 951	Electrolytic 2.2 $\mu$ F/50V	CE04W1H2R2M					
C913	256 1058 971	Metalized 0.1 $\mu$ F/50V	CF93A1H104J (JL)	W301	203 0501 027	1P SIN con. Ass'y		1
C914	254 4260 919	Electrolytic 0.22 $\mu$ F/50V	CE04W1HR22M	XL901	399 0107 900	Ceramic resonator CST4.19MGW		1
C915	255 1265 936	Mylar film 0.01 $\mu$ F/50V	CQ93M1H103J(B)					
C917	255 1265 936	Mylar film 0.01 $\mu$ F/50V	CQ93M1H103J(B)		202 0040 909	Fuse clip	F101	2
C918	254 4254 909	Electrolytic 10 $\mu$ F/16V	CE04W1C100M		415 0299 000	Condenser cover	for C151,C152	2
C920	254 4254 909	Electrolytic 10 $\mu$ F/16V	CE04W1C100M					
C923	254 4305 968	Electrolytic 1 $\mu$ F/50V	CE04W1H010M(SRE)					
C928	256 1058 971	Metalized 0.1 $\mu$ F/50V	CF93A1H104J (JL)					
C929	255 1265 936	Mylar film 0.01 $\mu$ F/50V	CQ93M1H103J(B)					

## 1U-3156 MAIN P.W.B. ASS'Y

Ref. No.	Part No.	Part Name	Remarks	Ref. No.	Part No.	Part Name	Remarks	
SEMICONDUCTORS GROUP				RESISTORS GROUP				
IC101	263 0753 000	IC NJM7809FA(S)	18V 2.7V	R109,110	241 2425 967	Carbon film 22 kohm 1/4W	RD14B2E223J(PSNB)	
IC102,103	268 0073 905	IC ICP-N15		R113,114	241 2422 944	Carbon film 1 kohm 1/4W	RD14B2E102J(PSNB)	
IC202	262 2487 009	IC TC9163AN		R201,202	241 2428 935	Carbon film 300 kohm 1/4W	RD14B2E304J(PSNB)	
IC203	262 2488 008	IC TC9164AN		R215,216	241 2420 988	Carbon film 220 ohm 1/4W	RD14B2E221J(PSNB)	
IC401	263 0609 002	IC NJM2068DDC		R311,312	241 2425 909	Carbon film 12 kohm 1/4W	RD14B2E123J(PSNB)	
IC904	499 0290 007	Remocon sensor GP1U271X		R501,502	241 2420 988	Carbon film 220 ohm 1/4W	RD14B2E221J(PSNB)	
TR101	274 0136 012	Transistor 2SD1913 (R/S)		R503,504	241 2429 963	Carbon film 1 Mohm 1/4W	RD14B2E105J(PSNB)	
TR201,202	273 0303 910	Transistor 2SC1740S(S)		R505,506	241 2420 904	Carbon film 100 ohm 1/4W	RD14B2E101J(PSNB)	
TR501~504	275 0055 015	FET 2SK184C (GR)/(BL)		R507~510	241 2424 900	Carbon film 4.7 kohm 1/4W	RD14B2E472J(PSNB)	
TR505~508	273 0235 923	Transistor 2SC1841(E/F)		R511,512	241 2424 968	Carbon film 8.2 kohm 1/4W	RD14B2E822J(PSNB)	
TR509~512	271 0131 924	Transistor 2SA988(E/F)		R513~520	241 2378 962	Carbon film 330 ohm 1/4W(NB)	RD14B2E331JNBS	
TR513,514	273 0235 923	Transistor 2SC1841(E/F)		R521,522	244 2064 932	Metal oxide 3.9 kohm 1W	RS14B3A392JNBS(S)	
TR521,522	273 0235 923	Transistor 2SC1841(E/F)		R523,524	241 2429 963	Carbon film 1 Mohm 1/4W	RD14B2E105J(PSNB)	
TR601,602	273 0303 910	Transistor 2SC1740S(S)		R525,526	241 2425 983	Carbon film 27 kohm 1/4W	RD14B2E273J(PSNB)	
TR603,604	269 0067 901	Transistor RN1205(2.2K-47K)		R527,528	241 2420 946	Carbon film 150 ohm 1/4W	RD14B2E151J(PSNB)	
TR701,702	273 0303 910	Transistor 2SC1740S(S)		R529,530	241 2377 921	Carbon film 82 ohm 1/4W(NB)	RD14B2E820JNBS	
TR704~706	273 0303 910	Transistor 2SC1740S(S)		R531,532	241 2424 955	Carbon film 7.5 kohm 1/4W	RD14B2E752J(PSNB)	
TR707	271 0192 905	Transistor 2SA933S(S)		R533~536	241 2377 992	Carbon film 160 ohm 1/4W(NB)	RD14B2E161JNBS	
TR708	273 0303 910	Transistor 2SC1740S(S)		R537,538	241 2425 912	Carbon film 13 kohm 1/4W	RD14B2E133J(PSNB)	
TR709	271 0131 924	Transistor 2SA988(E/F)		R539,540	241 2424 900	Carbon film 4.7 kohm 1/4W	RD14B2E472J(PSNB)	
D101	276 0681 000	Diode FMG-22S		R541,542	241 2424 955	Carbon film 7.5 kohm 1/4W	RD14B2E752J(PSNB)	
D102	276 0682 009	Diode FMG-22R		R543~550	244 2043 982	Metal oxide 0.22 ohm 1W	RS14B3AR22JNBS(S)	
D103,104	276 0553 905	Diode 1SR35-200A		R555~558	241 2425 967	Carbon film 22 kohm 1/4W	RD14B2E223J(PSNB)	
D201~204	276 0616 907	Diode 1SS252		R561~564	244 2043 937	Metal oxide 10 ohm 1W	RS14B3A100JNBS(S)	
D501,502	276 0616 907	Diode 1SS252		R651,652	241 2425 909	Carbon film 12 kohm 1/4W	RD14B2E123J(PSNB)	
D507~512	276 0616 907	Diode 1SS252		R653,654	241 2422 902	Carbon film 680 ohm 1/4W	RD14B2E681J(PSNB)	
D601~606	276 0616 907	Diode 1SS252		R655,656	241 2427 923	Carbon film 100 kohm 1/4W	RD14B2E104J(PSNB)	
ZD101,102	276 0645 907	Zener diode MTZJ18A		R657,658	244 2052 931	Metal oxide 390 ohm 1W	RS14B3A391JNBS(S)	
ZD501~504	276 0643 925	Zener diode MTZJ2.7A		R996	241 2429 963	Carbon film 1 Mohm 1/4W	RD14B2E105J(PSNB)	
LD907	393 9539 908	LED SLR-342VRTF7LM		R998	241 2429 963	Carbon film 1 Mohm 1/4W	RD14B2E105J(PSNB)	
				VR501,502	211 6075 024	Semi fixed resistor 4.7 kohm	V06PB472 (CERMET)	
				CAPACITORS GROUP				
				C101	256 1042 903	Metalized 0.1 μF/250V	CF93A2E104K	
				C103,104	254 4531 703	Electrolytic 8200 μF/63V	CE04W1J822MC(DL)	
				C105,106	254 4313 918	Electrolytic 10 μF/50V	CE04W1H100M(ASF)	
				C107,108	254 4313 950	Electrolytic 100 μF/50V	CE04W1H101M(ASF)	
				C109	254 4368 947	Electrolytic 220 μF/25V	CE04W1E221M(ASF)	
				C110	254 4260 948	Electrolytic 1 μF/50V	CE04W1H010M	
				C201,202	255 4237 929	Polypropylene film 56 pF/100V	CQ93P2A560J(NH)	
				C203~214	253 4537 982	Ceramic 56 pF/50V	CC45SL1H560J(DD-3)	
				C219	254 4313 921	Electrolytic 22 μF/50V	CE04W1H220M(ASF)	

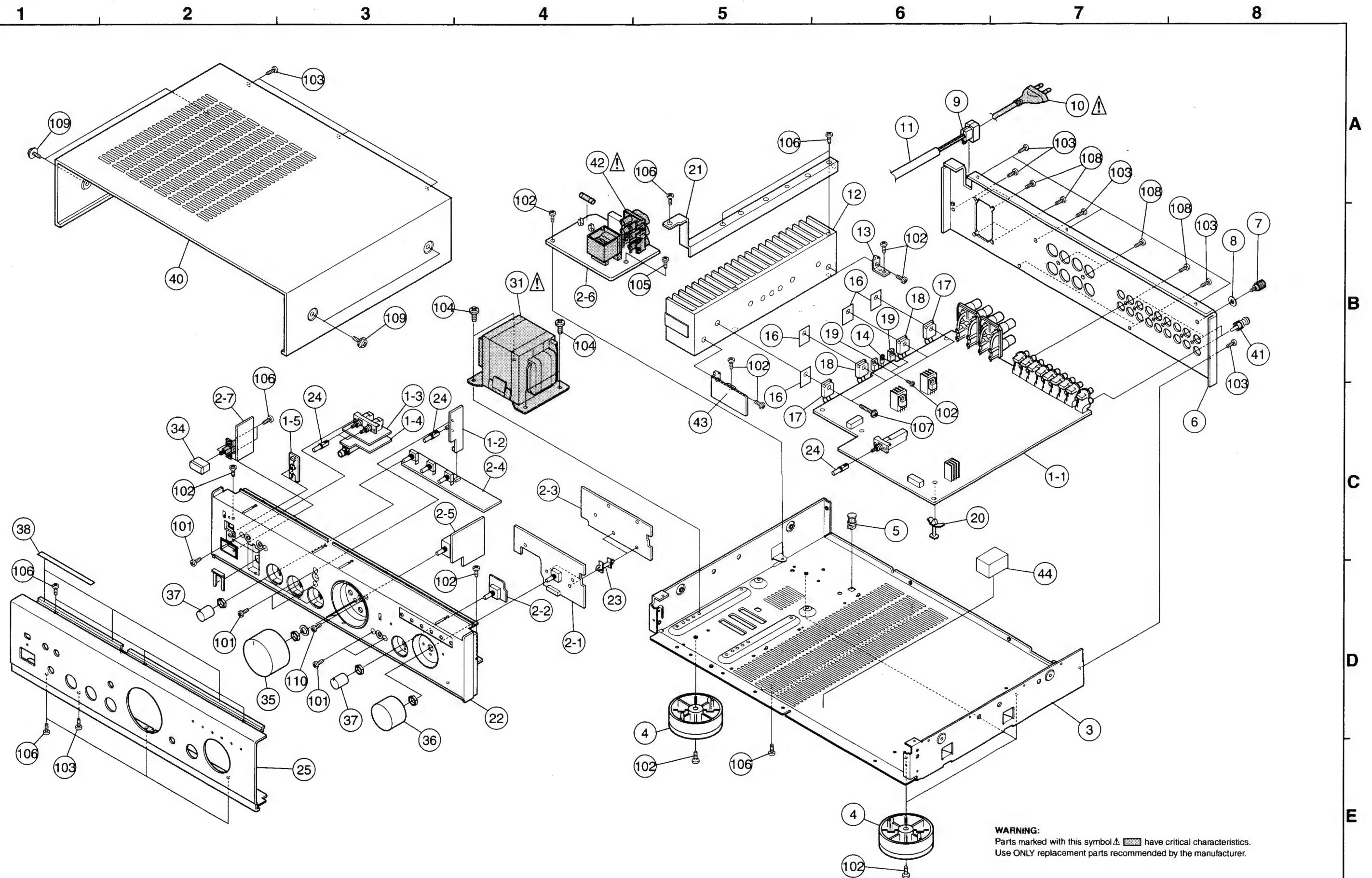


Ref. No.	Part No.	Part Name	Remarks	Ref. No.	Part No.	Part Name	Remarks	Q'ty
C317,318	254 4260 906	Electrolytic 0.1 $\mu$ F/50V	CE04W1H0R1M	<b>OTHER PARTS</b>				
C319,320	255 1265 978	Mylar film 0.022 $\mu$ F/50V	CQ93M1H223J(B)	CW061	205 0343 061	6P connector base (KR-PH)		1
C321,322	255 1265 936	Mylar film 0.01 $\mu$ F/50V	CQ93M1H103J(B)	CW102	205 1081 005	10P FJ connector base		1
C401	255 4237 903	Polypropylene film 2700 pF/100V	CQ93P2A272J(NH)	CW161	205 1056 027	16P connector socket TKC-V		1
C403-406	253 4538 965	Ceramic 120 pF/50V	CC45SL1H121J(DD-3)	CX051	205 0885 008	5P connector socket (TUC-P)		1
C407,408	253 1179 929	Ceramic 150 pF/50V	CK45B1H151K(DD-3)	CX101	205 0884 054	10P connector base (TUC-P)		1
C409,410	254 4254 909	Electrolytic 10 $\mu$ F/16V	CE04W1C100M	CX705	205 0087 042	4P wrapping terminal		1
C411,412	254 4252 943	Electrolytic 220 $\mu$ F/10V	CE04W1A221M	CY041	205 0343 045	4P connector base (KR-PH)		1
C413,414	253 4538 949	Ceramic 100 pF/50V	CC45SL1H101J(DD-3)	CZ061	205 0343 061	6P connector base (KR-PH)		1
C417,418	255 1264 908	Mylar film 1000 pF/50V	CQ93M1H102J(B)	JK101-103	204 8543 019	6P pin jack		3
C419,420	255 1265 907	Mylar film 6800 pF/50V	CQ93M1H682J(B)	JK651	204 8341 004	Headphones jack		1
C421,422	255 1265 978	Mylar film 0.022 $\mu$ F/50V	CQ93M1H223J(B)	L401,402	235 9003 002	FTZ choke coil	Europe Model Only	2
C423,424	255 1264 940	Mylar film 2200 pF/50V	CQ93M1H222J(B)	RL201,202	214 0127 003	Relay (RY-12W)		2
C425,426	254 4313 963	Electrolytic 1 $\mu$ F/50V	CE04W1H010M(ASF)	RL601,602	214 0194 007	Relay (VB12SMBU)		2
C427,428	254 4260 951	Electrolytic 2.2 $\mu$ F/50V	CE04W1H2R2M	RL603	214 0127 003	Relay (RY-12W)		1
C501-504	255 4235 918	Polypropylene film 100 pF/100V	CQ93P2A101J(NH)	S301	212 1130 006	1P push switch		1
C505,506	255 1264 908	Mylar film 1000 pF/50V	CQ93M1H102J(B)	S302	212 1175 003	1P push switch		1
C507,508	254 4492 907	Electrolytic 47 $\mu$ F/25V	CE04W1E470M(ASF)	S651	212 4690 006	2P push switch		1
C509,510	255 4232 924	Polypropylene film 39 pF/100V	CQ93P2A390J(NH)	TP501,502	205 0190 036	3P NH connector base		2
C523,524	254 4313 950	Electrolytic 100 $\mu$ F/50V	CE04W1H101M(ASF)	TR102	417 0476 007	Radiator		1
C525,526	255 4232 937	Mylar film 1000 pF/50V	CQ93P2A102J(NH)	W651	203 0501 027	1P SIN con. Ass'y		1
C527,528	256 1058 971	Metalized 0.1 $\mu$ F/50V	CF93A1H104J (JL)	272 0093 010	Transistor 2SB1274 (R/S)			1
C529-532	254 4367 919	Electrolytic 4.7 $\mu$ F/63V	CE04W1J4R7M(ASF)	417 0476 007	Radiator			3
C541-544	255 1264 940	Mylar film 2200 pF/50V	CQ93M1H222J(B)	417 0476 049	Radiator			2
C607,608	254 4313 921	Electrolytic 22 $\mu$ F/50V	CE04W1H220M(ASF)	471 3304 028	Screw 3 x 8 CBS-B			5
C651,652	254 4261 918	Electrolytic 47 $\mu$ F/50V	CE04W1H470M					
C653	255 4232 937	Polypropylene film 1000 pF/100V	CQ93P2A102J(NH)					
C671,672	255 1264 940	Mylar film 2200 pF/50V	CQ93M1H222J(B)					
C673-676	255 4235 934	Polypropylene film 0.01 $\mu$ F/100V	CQ93P2A103J(NH)					
C701	254 4256 949	Electrolytic 100 $\mu$ F/25V	CE04W1E101M					
C702	254 4250 945	Electrolytic 330 $\mu$ F/6.3V	CE04W0J331M					
C703	254 4261 905	Electrolytic 33 $\mu$ F/50V	CE04W1H330M					
C704	255 1265 936	Mylar film 0.01 $\mu$ F/50V	CQ93M1H103J(B)					
C705	254 4260 919	Electrolytic 0.22 $\mu$ F/50V	CE04W1HR22M					
C706	254 4260 948	Electrolytic 1 $\mu$ F/50V	CE04W1H010M					
C924	255 1265 936	Mylar film 0.01 $\mu$ F/50V	CQ93M1H103J(B)					

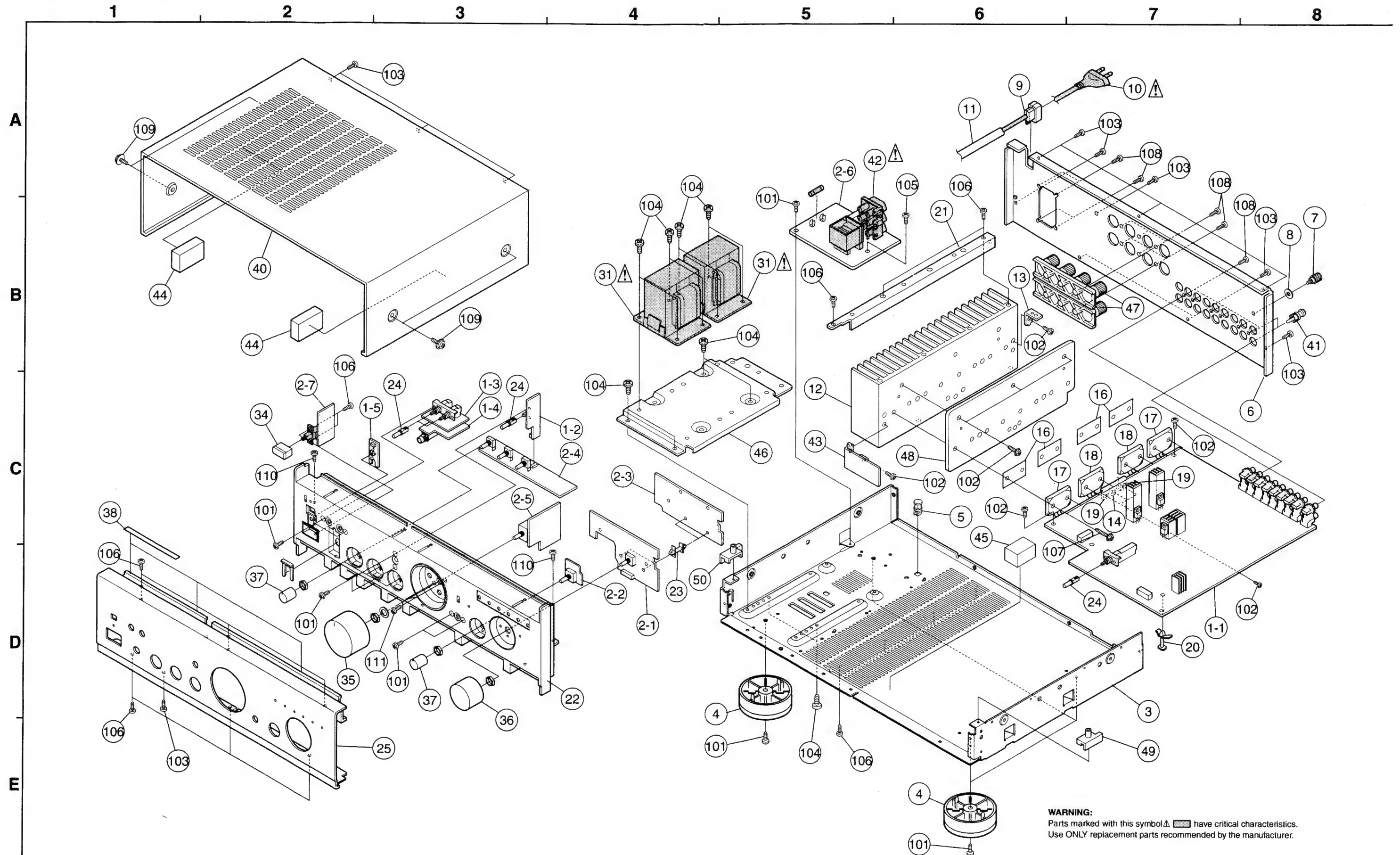
## PARTS LIST OF EXPLODED VIEW (PMA-535R)

Ref. No.	Part No.	Part Name	Remarks	Q'ty	Ref. No.	Part No.	Part Name	Remarks	Q'ty
1	1U-3110	Main P.W.B. ass'y		1	34	113 9213 000	P. knob (P) ass'y	Black Model	1
1-1	—	Main P.W.B. unit			34	113 9213 039	P. knob (P) ass'y	Gold Model	1
1-2	—	Loud. P.W.B. unit			35	112 0744 106	VR knob ass'y	Black Model	1
1-3	—	SP. SW. P.W.B unit			35	112 0744 122	VR knob ass'y	Gold Model	1
1-4	—	H/P P.W.B unit			36	112 0699 109	MARU knob ass'y	Black Model	1
1-5	—	LED P.W.B unit			36	112 0699 125	MARU knob ass'y	Gold Model	1
2	1U-3111	U-COM P.W.B ass'y		1	37	112 0685 100	Knob (MARU)	Black Model	4
2-1	—	F. SW P.W.B unit			37	112 0685 113	Knob (MARU)	Gold Model	4
2-2	—	R. SEL. SW. P.W.B unit			38	461 0501 005	Rubber sheet	I/PANEL	3
2-3	—	U-COM P.W.B unit			★39	445 8004 007	Wire clasper		7
2-4	—	Tone P.W.B unit			40	102 0595 002	Top cover	Black Model	1
2-5	—	Main volume P.W.B unit			40	102 0595 015	Top cover	Gold Model	1
2-6	—	AC P.W.B. unit			41	209 0012 006	Short pin		2
2-7	—	P. SW P.W.B. unit			△ 42	203 3975 003	AC outlet (E2)	Europe Model Only	1
3	411 1267 725	Main chassis		1	△ 42	203 3974 004	AC outlet	Taiwan R.O.C Model	1
4	104 0194 205	Foot ass'y		4	43	414 0853 003	Shield plate	Europe Model Only	1
5	412 2762 002	P.W.B. holder	AC OUTLET	1	44	461 0957 099	Rubber foam		1
6	105 1282 012	Back panel	Europe Model	1	★45	513 2769 036	Rating sheet (T)	Taiwan R.O.C Model Only	1
6	105 1282 025	Back panel	Taiwan R.O.C Model	1	★46	513 2482 009	Caution label (T)	Taiwan R.O.C Model Only	1
7	205 0071 016	Terminal ass'y		1	SCREWS				
8	477 0018 001	Washer (P-87)		1	101	473 7002 018	Screw 3 x 8 CBTS (S)-Z		8
9	445 0056 008	Cord bush		1	102	473 7005 002	Screw 3 x 10 CBTS (S)-Z		14
△ 10	206 2063 009	AC cord with plug	Europe Model	1	103	473 7015 018	Screw 3 x 8 CBTS (S)-B		9
△ 10	206 2060 002	AC cord (polarized)	Taiwan R.O.C Model	1	104	473 7026 007	Screw 4 x 6 CBTS (S)-B		4
△ 10	206 2131 009	AC cord with plug	U.K. Model	1	105	473 7501 030	Screw 3 x 20 CBTS (P)-Z		1
11	415 0364 032	UL tube (8.3)	for AC CORD, L=90	1	106	473 7508 017	Screw 3 x 10 CBTS (P)-B		13
12	417 0566 302	Power radiator		1	107	473 8007 038	Cup screw 3 x 14		4
13	412 3225 205	P.W.B bracket (A)	Europe Model	1	108	477 0064 107	Fixing screw		10
13	412 3225 205	P.W.B bracket (A)	Taiwan R.O.C Model	2	109	477 0263 005	3P. swelling screw	Black Model	4
14	279 0034 054	Posistor PTH9M04BC22TS2F333	TH701	1	109	477 0263 018	3P. swelling screw	Gold Model	4
★15	415 0309 055	P.V.C tube (L=07)	for POSISTOR, L=7	2	110	473 8034 027	Screw 3 x 8 CBTS (B)-B		2
16	415 0234 007	Insulating sheet		4	PACKING & ACCESSORIES				
17	272 0152 003	Transistor 2SB1383(P/Y)	TR519,520	2	201	513 1581 008	Serial No. sheet	Europe Model	1
18	274 0190 003	Transistor 2SD2083(P/Y)	TR517,518	2	201	513 2481 000	Serial No. sheet (T)	Taiwan R.O.C Model	1
19	273 0450 009	Transistor 2SC4495(O/Y)	TR515,516	2	202	505 8006 019	Envelope		1
20	449 0050 022	Card spacer		1	203	511 3285 005	Instruction manual		1
21	412 4365 009	Radiator bracket		1	204	515 0671 601	Service station list (EX)		1
22	146 2075 203	Inner panel	Black Model	1	205	—	Battery UM-3		1
22	146 2075 216	Inner panel	Gold Model	1	206	399 0497 005	Remote controller RC-843		1
23	412 2404 027	PWB holder (WLS-10)		2	207	504 9102 003	Stylen paper		1
24	113 1356 004	Push knob (MARU)	Black Model	4	208	505 9102 019	Poly. cover		1
24	113 1356 062	Push knob (MARU)	Gold Model	4	209	503 1296 008	Cushion		2
25	144 2606 029	Front panel ass'y	Black Model	1	210	501 2017 015	Carton case		1
25	144 2606 032	Front panel ass'y	Gold Model	1	211	517 1370 020	E2 POS label	Europe Black Model Only	1
★27	204 0378 088	6P KR-KR ribbon 225	for CZ,CW061, L225	1	211	517 1370 033	E2 POS label	Europe Gold Model Only	1
★28	203 6386 055	4P KR-KR ribbon 400	for CX,CY041	1	212	513 1389 006	Control card base		1
★29	203 8342 097	5P KR-KR ribbon 500	for CX,CY053	1	213	513 1349 004	Thermal carbon film		1
★29	203 4872 011	3P KR-KR ribbon 300	for CX,CY031	1	214	513 3195 007	KOLIN label (T)	Taiwan R.O.C Model Only	1
★30	415 0295 004	Insulating tube	12.7TUBE, L=250	1	215	513 9111 001	Color label (Gold)	Gold Model Only	2
△ 31	233 6255 006	Power trans. (E2)	Europe & U.K. Model	1					
△ 31	233 6266 008	Power trans. (E3)	Taiwan R.O.C Model	1					
★32	001 0148 075	Vinyl wire	ORENCE, L=370	1					
★33	001 0148 088	Vinyl wire	RED, L=370	1					

## EXPLODED VIEW (PMA-535R)



# EXPLODED VIEW (PMA-735R)

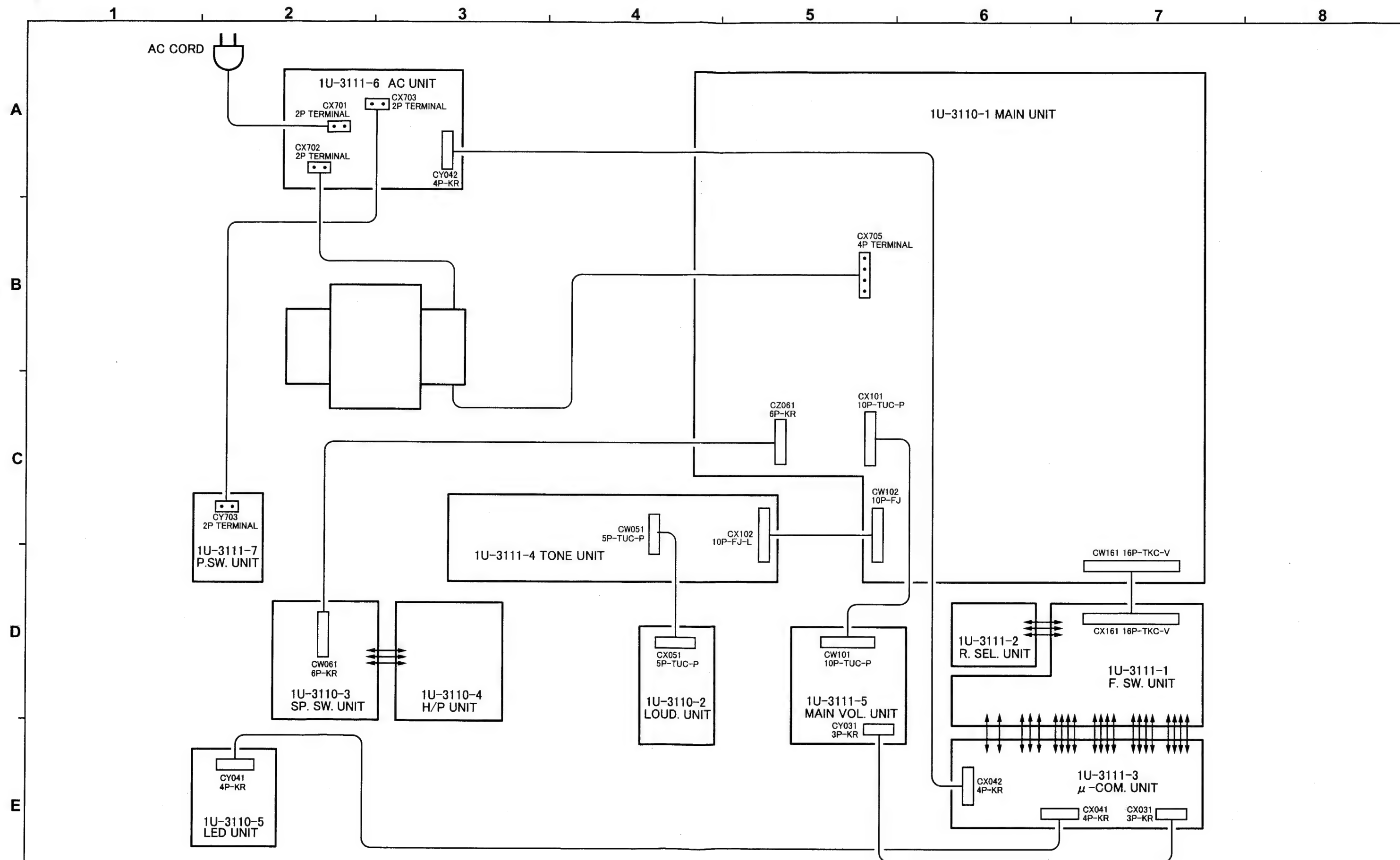




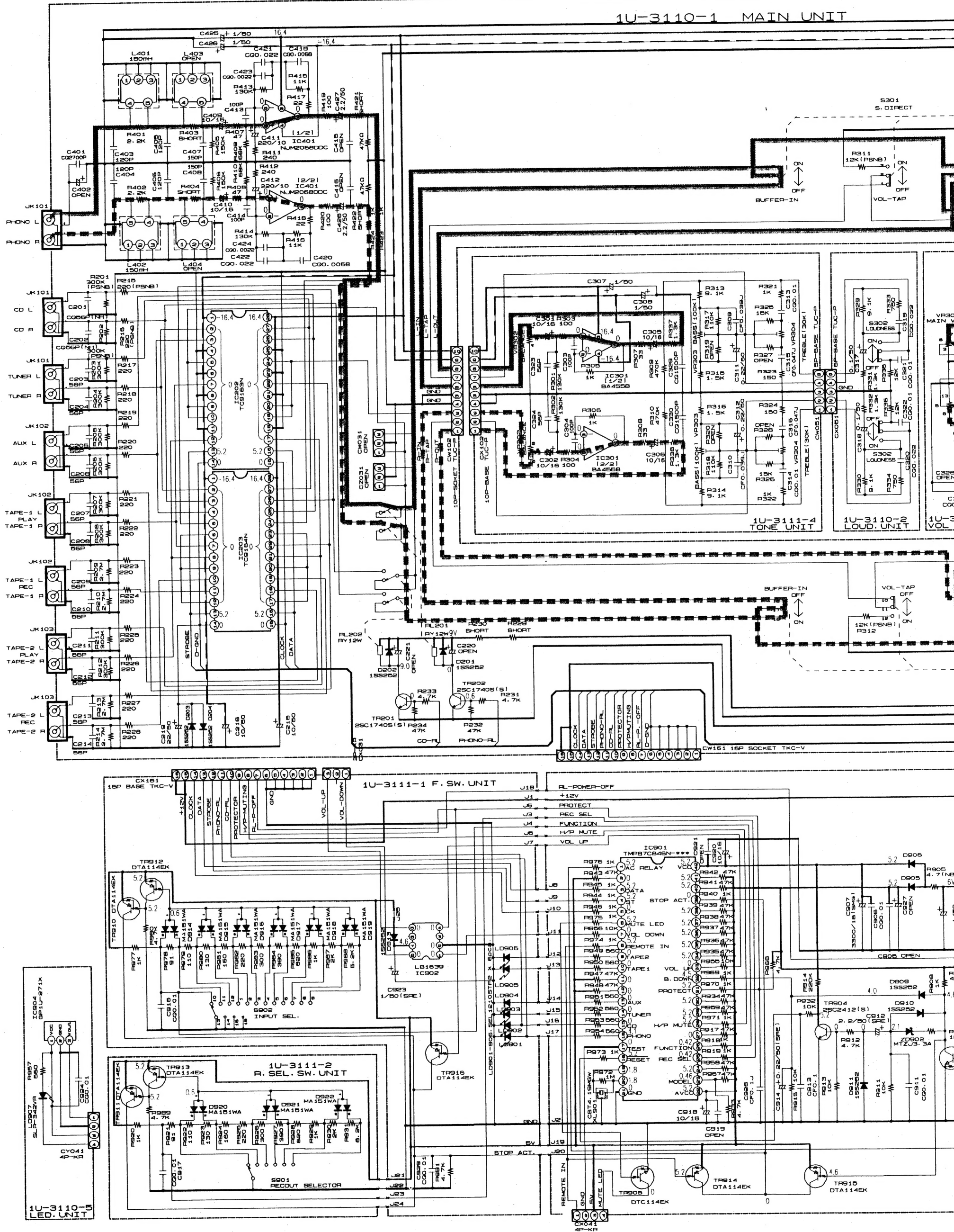
## PARTS LIST OF EXPLODED VIEW (PMA-735R)

Ref. No.	Part No.	Part Name	Remarks	Q'ty	Ref. No.	Part No.	Part Name	Remarks	Q'ty
1	1U-3156	Main P.W.B. ass'y		1	36	112 0699 109	MARU knob ass'y	Black Model	1
1-1	-	Main P.W.B. unit			36	112 0699 125	MARU knob ass'y	Gold Model	1
1-2	-	Loud P.W.B. unit			37	112 0685 100	Knob (MARU)	Black Model	4
1-3	-	SP. SW. P.W.B. unit			37	112 0685 113	Knob (MARU)	Gold Model	4
1-4	-	H/P P.W.B. unit			38	461 0501 005	Rubber sheet	I/PANEL	3
1-5	-	LED P.W.B. unit			★39	445 8004 007	Wire clasper		4
2	1U-3111	U-COM P.W.B. ass'y		1	40	102 0416 152	Top cover	Black Model	1
2-1	-	F. SW. P.W.B. unit			40	102 0416 165	Top cover	Gold Model	1
2-2	-	R. SEL. SW. P.W.B. unit			41	209 0012 006	Short pin		2
2-3	-	U-COM P.W.B. unit			△ 42	203 3975 003	AC outlet (E2)	Europe Model	1
2-4	-	Tone P.W.B. unit			43	414 0853 003	Shield plate		1
2-5	-	Main volume P.W.B. unit			44	461 0677 007	Rubber Sheet		2
2-6	-	AC P.W.B. unit			45	461 1012 001	Rubber Foam		1
2-7	-	P. SW. P.W.B. unit			46	441 1882 004	Trans. bracket		1
3	411 1267 738	Main chassis		1	47	205 0989 001	4P terminal	SP TERMINAL	4
4	104 0194 205	Foot ass'y		4	48	412 4435 007	CU plate		1
5	412 2762 002	P.W.B. holder	AC OUTLET	1	49	103 1714 005	Spacer (R)		1
6	105 1286 102	Back panel		1	50	103 1715 004	Spacer (L)		1
7	205 0071 016	Terminal ass'y		1	SCREWS				
8	477 0018 001	Washer (P-87)		1	101	473 7002 018	Screw 3 x 8 CBTS(S)-Z		8
9	445 0056 008	Cord bush		1	102	473 7005 002	Screw 3 x 10 CBTS(S)-Z		15
△ 10	206 2063 009	AC cord with plug	Europe Model	1	103	473 7015 018	Screw 3 x 8 CBTS(S)-B		9
△ 10	206 2131 009	AC cord with plug	U.K. Model	1	104	473 7026 007	Screw 4 x 6 CBTS(S)-B		8
11	515 0390 019	UL tube (8.3)	for AC CORD, L=120	1	105	473 7501 030	Screw 3 x 20 CBTS (P)-Z		1
12	417 0568 009	Power radiator		1	106	473 7508 017	Screw 3 x 10 CBTS(P)-B		13
13	412 3225 205	P.W.B. bracket (A)		1	107	473 8007 067	Cup screw 3 x 18		4
14	279 0034 067	Posistor PTH9M04BB22TS2F333	TH701	1	108	477 0064 107	Fixing screw		14
★15	415 0309 055	P.V.C tube (L=07)	for POSISTOR, L=7	2	109	477 0263 005	3P. swelling screw	Black Model	4
16	415 0234 007	Insulating sheet		4	109	477 0263 018	3P. swelling screw	Gold Model	4
17	272 0154 001	Transistor MP1715	TR519,520	2	110	473 7005 044	Screw 3 x 20 CBTS(S)-Z		2
18	274 0192 001	Transistor MN1715	TR517,518	2	111	473 8034 027	Screw 3 x 8 CBTS(B)-B		2
19	273 0450 009	Transistor 2SC4495(O/Y)	TR515,516	2	PACKING & ACCESSORIES				
20	449 0050 019	Card spacer		1	201	513 1581 008	Serial no. sheet		1
21	412 4384 006	Radiator bracket		1	202	505 8006 019	Envelope		1
22	146 2075 229	Inner panel	Black Model	1	203	511 3285 005	Instruction manual		1
22	146 2075 232	Inner panel	Gold Model	1	204	515 0671 601	Service station list (EX)		1
23	412 2404 027	PWB holder (WLS-10)		2	205	-	Battery UM-3		1
24	113 1356 004	Push knob (MARU)	Black Model	4	206	399 0497 005	Remote controller RC-843		1
24	113 1356 062	Push knob (MARU)	Gold Model	4	207	504 9102 003	Stylen paper		1
25	144 2612 000	Front panel ass'y	Black Model	1	208	505 9102 019	Poly. cover		1
25	144 2612 013	Front panel ass'y	Gold Model	1	209	503 1296 008	Cushion		2
★27	204 0378 088	6P KR-KR ribbon 225	for CZ,CW061, L225	1	210	501 2017 002	Carton case		1
★28	203 6386 055	4P KR-KR ribbon 400	for CX,CY041	1	211	517 1370 004	E2 POS label	Black Model	1
★29	203 8342 097	5P KR-KR ribbon 500	for CX,CY053	1	211	517 1370 017	E2 POS label	Gold Model	1
	203 4872 011	3P KR-KR ribbon 300	for CX,CY031	1	212	513 1389 006	Control card base		1
★30	415 0295 004	Insulating tube	12.7TUBE, L=250	1	213	513 1349 004	Thermal carbon film		1
△ 31	203 6256 005	Power trans. (E2)	Europe & U.K. Model	2	214	513 9111 001	Color label (Gold)	Gold Model Only	2
★32	001 0148 075	Vinyl wire	ORANGE, L=370	1					
★33	001 0148 088	Vinyl wire	RED, L=370	1					
34	113 9213 000	P. knob (P) ass'y	Black Model	1					
34	113 9213 039	P. knob (P) ass'y	Gold Model	1					
35	112 0744 106	VR knob ass'y	Black Model	1					
35	112 0744 122	VR knob ass'y	Gold Model	1					

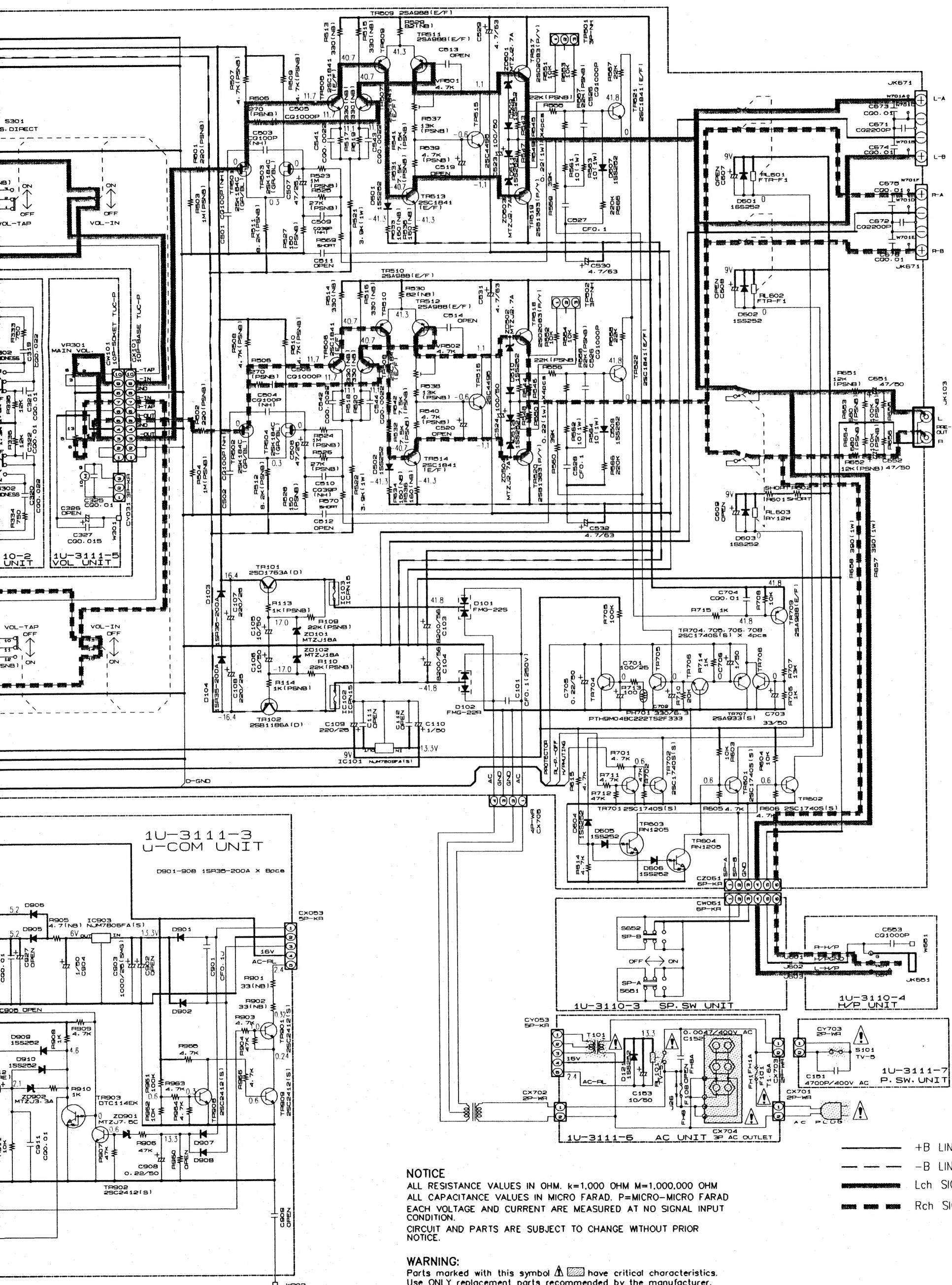
## WIRING DIAGRAM



## 6







## NOTICE

ALL RESISTANCE VALUES IN OHM.  $k=1,000$  OHM  $M=1,000,000$  OHM  
ALL CAPACITANCE VALUES IN MICRO FARAD.  $P=\text{MICRO}-\text{MICRO}$  FARAD  
EACH VOLTAGE AND CURRENT ARE MEASURED AT NO SIGNAL INPUT  
CONDITION.

CIRCUIT AND PARTS ARE SUBJECT TO CHANGE WITHOUT PRIOR NOTICE.

**WARNING:**

Parts marked with this symbol  have critical characteristics. Use ONLY replacement parts recommended by the manufacturer.

**CAUTION:**

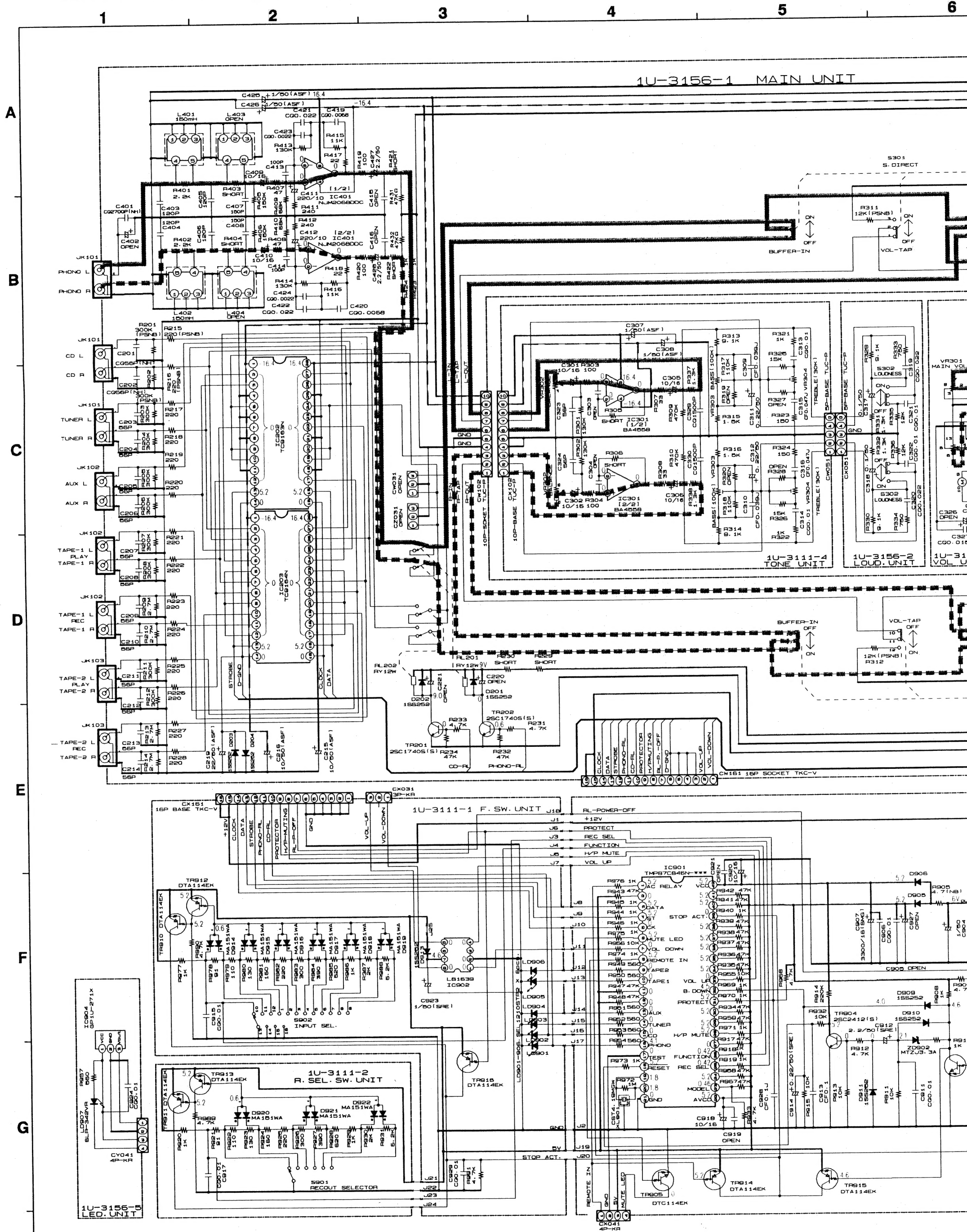
**CAUTION:** Before returning the unit to the customer, make sure you make either (1) a leakage current check or (2) a line to chassis resistance check. If the leakage current exceeds 0.5 milliamperes, or if the resistance from chassis to either side of the power cord is less than 460 kohms, the unit is defective.

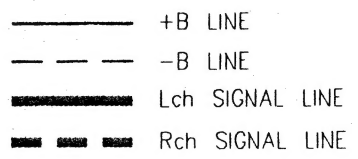
**WARNING:**

**WARNING:**  
DO NOT return the unit to the customer until the problem is located and corrected.



### SCHEMATIC DIAGRAM (PMA-735R)





## NOTICE

ALL RESISTANCE VALUES IN OHM.  $k=1,000$  OHM  $M=1,000,000$  OHM  
ALL CAPACITANCE VALUES IN MICRO FARAD.  $P=\text{MICRO}-\text{MICRO}$  FARAD  
EACH VOLTAGE AND CURRENT ARE MEASURED AT NO SIGNAL INPUT  
CONDITION.

CIRCUIT AND PARTS ARE SUBJECT TO CHANGE WITHOUT PRIOR NOTICE.

**WARNING:**

**WARNING.** Parts marked with this symbol  have critical characteristics. Use **ONLY** replacement parts recommended by the manufacturer.

**CAUTION:**

Before returning the unit to the customer, make sure you make either (1) a leakage current check or (2) a line to chassis resistance check. If the leakage current exceeds 0.5 milliamperes, or if the resistance from chassis to either side of the power cord is less than 460 kohms, the unit is defective.

**WARNING:**

**WARNING:**  
DO NOT return the unit to the customer until the problem is located and corrected.